PC Educational Series - IV

Pharmacist for Tobacco free Future

Tobacco Smoke is injurious to Society

Karnataka State Pharmacy Council
Bangalore

Karnataka State Pharmacy Council - A Profile

Karnataka State Pharmacy Council is a statutory body constituted by the Government of Karnataka under the provisions of the Pharmacy Act of 1948 consisting of six members elected by registered pharmacists amongst themselves, five members nominated by Government of Karnataka, three Ex-Officio Members and one member elected by Karnataka Medical Council.

The main function of the Karnataka State Pharmacy Council is to grant registration to the eligible pharmacists possessing requisite qualification as enunciated in the Pharmacy Act and to enforce the provisions of the Pharmacy Act. The Karnataka State Pharmacy Council is the first council to have all the technical data computerized, issue Identity Cards to all practicing Pharmacists, launch Community Pharmacy Programs & Continuing Education Programs to update pharmacist's knowledge. The total number of registered pharmacists as on date is 35127.

In addition to the main function of registration, the council has expanded its activities into the following areas: Recognizing the growing need of up-to-date drug information by the healthcare professionals, the Council has started Drug Information Center, which can proudly say it is the first major venture in the country.

Drug Information Centre

Karnataka State Pharmacy Council (KSPC) established its Drug Information Centre (DIC) in August 1997 to disseminate unbiased drug Information Centre to healthcare professionals. In India, this is the first independent drug Information Centre started by KSPC to provide unbiased drug information. The center is registered with IRDIS, an International Register of Drug Information Services.

The center provides in-depth, unbiased source of crucial drug information to meet the needs of practicing physicians, pharmacists and other healthcare professionals.

The drug Information Centre has branches at Victoria Hospital & Bowring & Lady Curzon Hospital. Activities such as ward round participation, provision of drug information, ADR Monitoring and patient counseling are carried out in these centers.

The drug Information Centre is involved in conducting training of doctors and pharmacists in Rational Use of Drugs program under the support of World Health Organisation.

Pharmacist for 'Tobacco-Free Future'

Tobacco Smoke is injurious to Society

1st EDITION - 2005

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Dedicated to the
welfare of the people
through
pharmacy services

Beware, Non-smokers !

You are equally prone to the hazzards of smoking when you inhale Tobacco smoke.

Keep yourself away from Tobacco smoke.

Never hesitate to discourage smoking in your vicinity, rather may it be your duty to do so.

IQBAL ANSARI
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DATED .....

FOREWORD

It is my pleasure to pen this foreword to the book "PHARMACISTS FOR TOBACCO FREE FUTURE" a publication from the Karnataka State Pharmacy Council.

The Karnataka State Pharmacy Council has set itself a primary objective to provide unbiased information on all drugs and pharmaceuticals to all the clinicians and pharmacists to ensure rationale in therapy.

I congratulate Sri.D.A. Gundu Rao, the President of Karnataka State Pharmacy Council, Bangalore and the members of council for their dedicated commitment to upgrade and update the pharmacists of the state on par with the developed countries. India being the emerging as a leader in various facets of pharmacy and pharmaceutical science, the efforts of the Karnataka State Pharmacy Council, Bangalore in helping the pharmacists to update them is a step in right direction.

It is interesting that voluminous information have been concised and listed in 'Bullet-point' format, which makes the reading more inviting and easier to understand. The beauty is that 'Reading can start from any page and end in any page'. The effort of Sri. P.S. Bhagavan, Deputy Director (Pharmacy) of the Health and Family Welfare Department and that of Smt. P.K. Lakshmi, Deputy Director (Drug Information Center), Karnataka State Pharmacy Council, Bangalore is quite laudable in this regard.

I wish the Karnataka State Pharmacy Council, Bangalore all success in their endeavor.

(IQBAL ANSARI)
29.3.05

PREFACE

A humble desire of continuing the publications of books on various issues having a bearing on the community under the educational series under the auspicious of KSPC was working in my mind since long. I shared my desire with many of my friends and members of KSPC. Good response came up from every corners and individuals approached. Incidentally, suggestion came from Sri. Prafull D Sheth the former President of IPA to do something to equip the pharmacists with information and to train them in smoking cessation program. In the meanwhile, I came across a WHO-FIP publication that had highlighted the importance of mobilizing all the healthcare workers including the pharmacists in smoking cessation program.

During the last ten years, the role of pharmacists has widened to cover different areas in health promotion and health education. The changing role of the pharmacist from simply dispensing medicaments, to a more holistic view of their customer's well-being has been developed in different countries and in various projects. The new concept has been called clinical pharmacy and is now called pharmaceutical care.

Apart from drug and drugs management, social concern in the community has been the initiation of smoking cessation activities in pharmacies. This has happened both in North America and in Europe. Results of different projects have been published during the 1990s, showing that activities of pharmacists are both effective and cost-effective.

The change in the role of the Community Pharmacist in the field of health education and promotion has been very rapid. It has thus become very important to know whether this new role has been accepted and implemented in the everyday practice of pharmacies or whether we are still in an initiating phase of the changing process. The smoking cessation activities in community pharmacies should be a part of normal customer service.

Karnataka State Pharmacy Council has plans to train community and hospital pharmacists in tobacco cessation program. This book is the first exercise in this endeavor. This is to promote anti-tobacco movement through pharmacists for the welfare of the community. I am sure this new venture started by KSPC would succeed in its objective with the support of all the pharmacists and well wishes including the Government.

I thank Sri. Iqbal Ansari, Hon'ble Minister for Medical Education, Govt. of Karnataka for his kind well thought foreword.

I thank Sri. P S Bhagavan, the Deputy Director (Pharmacy), Health & Family Welfare Services, Government of Karnataka, Bangalore for editing this book.

I thank Sri. S B Gore, Registrar and members of the council for kind perusal of the project and for offering incidental guidance and suggestions.

I thank Smt P. K. Lakshmi, Deputy Director, DIC, KSPC for providing technical input in making of this book.

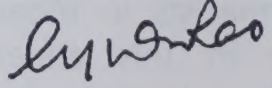
I thank doctors / professionals from Tobacco Cessation Clinic, NIMHANS, Bangalore & KIDWAI Hospital authorities, Bangalore for their valuable suggestions which are incorporated in this book.

The help and assistance of Sri Y. Veeranarayana Gowda, a community pharmacist is something unforgettable. He not only volunteered but also supported and assisted in collecting the required materials from various sources besides working closely in compilation of the book.

The draft book was reviewed by Dr. Ramesh S Bilimagga, Past President, IMA, Karnataka State Branch, Sri. Prafull D Sheth, Past President, Indian Pharmaceutical Association & Former Executive Vice President, Ranbaxy Laboratories Ltd., Sri. K. Satyanarayana, Former Editor, Kannada Prabha & Freelance Journalist and Sri. R. Parameshwar, Manager, Training & Sales, British Biologicals, Bangalore to whom I on behalf of the KSPC offer my indebtedness, and their suggestions have been well taken and incorporated.

I wish to thank Sri. Jameel of M/s. Images, Bangalore who has designed the cover page artistically, Mr. Y. S. Suresh of M/s. Arka Creations, Bangalore for the DTP work and M/s. Jwalamukhi Job Press, Bangalore for their quality and timely printing.

Well, though the book is meant to inform and train the pharmacists in counseling for tobacco cessation programme the book is recommended for reading by all in the best interest of the community at large.



D.A. Gundu Rao
President
Karnataka State Pharmacy Council

A word with my fellow pharmacists

Dear pharmacist,

- *"I swear by the code of ethics of Pharmacy Council of India in relation with the community and shall act as an integral part of health care team".*
- *"I shall strive to perfect and enlarge my knowledge to contribute to the advancement of pharmacy and public health".*
- *"I shall follow the system, which I consider best for pharmaceutical care and counseling of patient.*

- remember having read or heard these somewhere? These are the few lines from our oath which we have taken at the time of graduation or registration as pharmacist.

Well, the time has come now for us to do some introspection to assess by ourself as to how much has been our contribution to our community around, in the field of public health.

The community and the Government have recoginized us as a professional with an exclussive right to deal with the drugs in the interest of the community and the patients in particular.

But, to be honest, we have confined ourself to the drugs cupboards and dispensing counter and we have been pharmaceutically silent as far as the relevant communication is concerned. Excepting the hospital pharmacists in Government hospitals and Government health care institutions, none of us have taken even a small step towards public health.

A casual look at the Oath given above and our own self review of our activity clearly shows that the we have been

underplaying the underlined issues and betrayed our own community in the field of public health.

Nevertheless, now is the time to come out from our own self made cocoon and to rededicate ourself for the cause.

As is known to all, Smoking has been and has become the worst habit that destroys not only the one who indulges in it but also the entire environment and people around including innocent children. A smoker when avoids or stops smoking he will be doing a great service to the mankind and the environment around him.

The smoking is labelled 'worst menace' because it destroys the social structure, health and financial stability of every one around.

There cannot be a better cause than to fight the smoking menace.

This is my humble effort to present this compilation by extracting as much information as possible from several sources. Few of them has been listed at the end in the Appendix. I am grateful to all the authors of those sources.

My experience with Tobacco smoking, its impact on me and on my society before and after quitting smoking has also been the major source of information on the life of smokers.

Please read any page any line but keep reading at least one page or at least one line per day. The enriched knowledge brings out an efficient counselor in you.

So lets' serve the community through pharmaceutical service. Please proceed.

Thank you

P S Bhagavan

Utmost care has been taken by our team to be as accurate as possible in presenting the facts and data in this book. However, readers being the best judges, are requested to pass on their comments to the KSPC, which we gracefully acknowledge and consider for inclusion in the next edition.

-Editor

Contents

CHAPTER - I

HISTORICAL PERSPECTIVES

" The cigarette the most stylish and equally devilish stick is the only consumer product that badly affects the life and quality of the life of the consumer, many a time fatally when used as directed".

Tobacco botanically called Nicotiana tabacum was once a weed plant now being grown for its leaves for smoking, chewing, or sniffing for a variety of effects. It mainly contains a chemical called Nicotine + over 19 known carcinogenic chemicals (collectively called "tar") and more than 4,000 other chemicals! Above all is a habit forming (addictive) substance.

Why people have been using tobacco?

It is quite interesting to know that people started using tobacco for various purposes and indulged in its various forms.

- Man got into the taste of tobacco in the course of his natural search for food and medicine.
- In 1566, tobacco leaves were sent to the Queen of France to treat her migraine headaches. It soon gained a reputation as a wondrous panacea.

- The tobacco has a property that creates physical and psychological dependence.
- The users strong compulsive desire to acquire it has been documented in nearly every culture.
- As a result, the world's populace has spent the intervening years in smoking, chewing, sniffing, or sporting various forms and mixtures of the tobacco leaf.
- The colonial people and traders introduced tobacco on the American continent in the early 1600s.
- Tobacco use later was widely accepted by the Portuguese, Spanish, French, British, and Scandinavians.
- Prior to European influence on America, the Indians of Mexico and Peru used tobacco for ceremonies, medicinal purposes, and to alleviate hunger pangs during famines.
- Over the years, tobacco has been claimed as a cure for a wide range of ailments with varying forms of administration like: poultices, pastes, smoked, chewed, sniffed, or insertions into any body cavity.
- Its social importance also grew over the years even to the point of denoting the "modern or liberated - look", during the first part of the twentieth century.

Origin

- It is not specifically known as to when actually man got into the use of this weed plant. However, certain landmarks indicate that the man has been using the leaves of this plant since time immemorial.
- Native Americans used tobacco long before Columbus first stepped upon their shores.
- According to relics from archeological data 'Tobacco' plant was being cultivated in Americas as early as 5000 BC
- Early sailors introduced tobacco to Europe and the spread continued from Europe to the Middle East and Asia, thus began circumnavigation of tobacco around the globe.
- Explorers and sailors who became dependent upon tobacco began planting seeds at their ports of call, introducing the product into other parts of Europe and Asia.

"Portuguese traders introduced tobacco to India in the year 1600"

CHAPTER-II

TYPES OF TOBACCO USE

Tobacco was initially smoked and later it was used in smokeless form also. There appears to be no nationwide surveys on the prevalence of tobacco use in India. The prevalence is assessed to be ranging from 11 to 49 percent.

Smoking forms of tobacco

Cigarettes

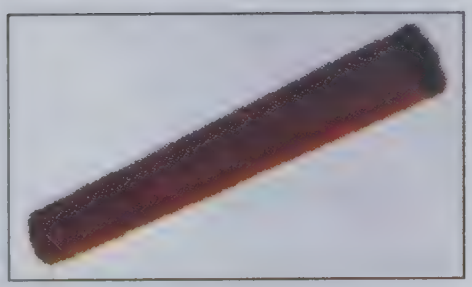
Manufactured cigarettes consist of shredded or reconstituted tobacco processed with thousands of chemicals. Often cigarette is fitted with a filter, a material that can filter at the most only large macro particles and cannot filter chemicals and fine micro-particles that are part of the smoke. Filter is only to prevent burnt and unburnt particles entering the mouth while smoking. Filters are not health guards.

Filter-tipped cigarettes are more popular than filterless cigarettes. Further, since the material of the filter doesn't burn like the paper part of the cigarette, it prevents the smoker from burning his/ her lips inadvertently.

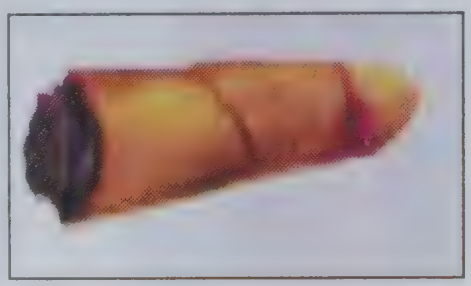
Hand-rolled cigarettes are also smoked in many countries. But, machines made cigarettes are the predominant form of smoking tobacco used worldwide and are available throughout the world.

Sticks

Stick is a form of cigarette and are made from sun-cured tobacco known as Brus and wrapped in cigarette paper.



Bidis



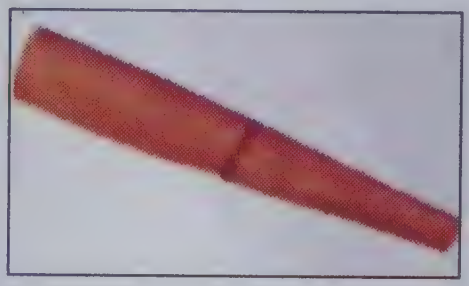
- Bidis consist of a small amount of tobacco, hand-wrapped in dried temburni leaf and tied with string.
- Despite their small size, their tar and carbon monoxide deliveries are higher than manufactured cigarettes because of the need to puff harder and more frequently to keep bidis lit.
- Bidis are found being used throughout south-east Asia, and is the most common type of tobacco used in India

Cigars

- Cigars are made of air-cured and fermented tobaccos with a tobacco wrapper, and come in many shapes and sizes, like cigarette-sized cigarillos, double coronas, cheroots, stumpen, chuttas and dhumtis.
- Cigars are smoked throughout the world. Regional variations include cheroots and stumpen (western and central Europe) and dhumtis (conical cheroots) used in India

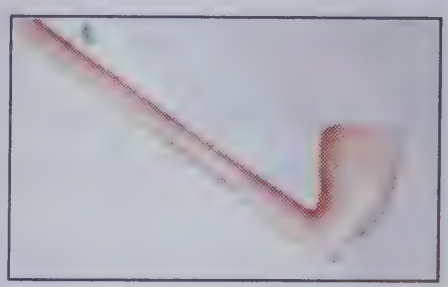
- In reverse chutta and dhumti smoking, the ignited end of the cigar is placed inside the mouth.

Kreteks



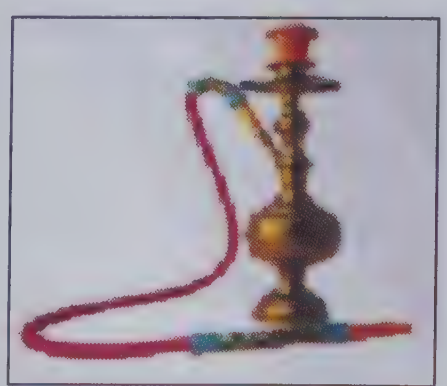
Kreteks are clove-flavoured cigarettes. They contain a wide range of exotic flavourings and eugenol an active ingredient of clove, which induces an anaesthetising effect, allowing for deeper smoke inhalation. Kreteks are widely smoked in Indonesia.

Pipes



Pipes are made of briar, slate, clay or other substance. Pipes are used as a tool to inhale burning tobacco.

- Tobacco is placed in the bowl, lit and inhaled through the hollow stem sometimes through water.
- In Southeast Asia clay pipes known as suipa, chillum and hookli are widely used.
- The water pipe, also known as shisha or hubbly bubbly, Gudugudi, is commonly used in north Africa, the mediterranean region and parts of Asia.



OTHER FORMS OF TOBACCO

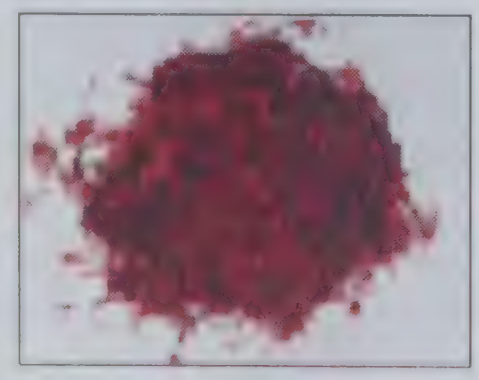
Smoke-less Tobacco (ST)

Smokeless tobacco is used in diverse forms in India for chewing and sucking in the mouth until it becomes bland., sometimes it is applied over the teeth and gums.

- Tobacco is chewed most commonly in betel-quid. Chewing tobacco is also used as plugs, loose-leaf twist and Pan-masala, or betel quid that consists of tobacco, areca nuts and staked lime wrapped in a betel leaf.
- Chewing tobacco may also contain other sweetening and flavouring agents. Varieties of pan include kaddipudi, hogesoppu, gundi, kadapam, zarda, pattiwala, kiwam, mishri, and pills.
- Tobacco is used orally throughout the world, but consumption is more in Southeast Asia.
- If the report that Mumbai in India itself has 56% of women are tobacco chewers is any indication, the picture of India is in no way better.

Snuff

- Snuff is used in moist and dry form.
- Moist snuff is taken orally.
- A small amount of ground tobacco is held in the mouth between the cheek and gum.



- Other products include khaini, shammaah and nass or naswa.

Dry snuff (Nessya)

Dry snuff is powdered tobacco that is inhaled through the nose or taken by mouth. Once being used widely, its use is now on decline.

Cigarette holders

- These are used to avoid direct contact of cigarette with the lips.
- Use of Cigarette holders does not in any way provide protection from any of the harmful effect of smoking. On the contrary it spreads the smoke to wider areas of lungs as it requires effortful deep heavy inhallation.

CHAPTER - III

CIGARETTE AND ITS CONTENTS

"God has provided defense mechanism to protect our body and system against natural onslaughts but not against deliberate continuous onslaught of un-natural chemicals that are poisons".

The adverse health effects of cigarette smoking has widely being publicized since 1960s. Cigarette - a beautifully looking paper roll containing dried pulverized tobacco leaf with added ingredients is a complex poisonous material with no nutritional or health supportive value. The profile of cigarette should be understood both in its manufactured form and in its smoke form that is inhaled. Since the smoke is the carrier media it is necessary to know what the Cigarette smoke contains and how harmful it is to the smoker and the non-smoker near by, when inhaled.

What's in a Cigarette?

- Cigarette is a powdered dry tobacco leaf blended with various additive substances wrapped in a paper fitted with or with out a filter at the smoking end (Lip end).
- Tobacco is not cigarette and Cigarette contains much more than just tobacco.
- To understand the cigarette in its entirety let's study

the cigarette both as a material and in its combustible form as under:

The material of Cigarette

The burnt material of Cigarette

The smoke that evolves

- Manufacturers strive hard to sustain and improve their market by making cigarette and the smoking more and more glamorous, more and more acceptable and more and more addictable
- It is further attractively promoted through glamorous advertise- ments where healthy people are shown enjoying the smoking happily.
- Certain materials are intentionally added to enhance acceptability and induce addiction that benefits the manufacturer.

Hence, one cigarate leads to life-long smoking and once initiated it is very difficult to quit.

But fortunately, it is not impossible to quit.

'Quality' of cigarette and its measure

- Cigarette is the only consumable item available freely for with no safety standard and there appears to be no Government control or regulation on quality.
- Market demand is the measure of *'Quality'* for the Manufacturer's.

Quality perception :

More the demand - *'Quality'* is good.

More the consumption - *'Quality'* is good.

More the addicts - *'Quality'* is good.

- Therefore, Nicotine is manipulated with hundreds of additives with precision to **'Enhance acceptance and addiction'.**
- 'Burning' changes the chemical properties of the cigarette material and its additives, turning them into **'Potential Poisons'** (Toxic substances).
- Although tobacco companies often claim that the additives used are the 'approved ones' for human consumption, the question remains whether the smoke and the contents of the smoke are also approved?
- The Ammonia from the additives raises the pH levels in the smoke, creating high levels of "Free Nicotine" which is absorbed by the body faster than "Bound Nicotine". (Molecule of Nicotine attached to other molecules and particles is called Bound Nicotine).
- Flavoring agents, sweeteners, soothing agents are added to mask the harsh taste of tobacco smoke and irritants, to overcome the repulsive feelings in the beginners and to make the cigarettes more palatable, acceptable and addictable.
- Some of these additives also mask the smell and visibility of second-hand smoke, further endangering non-

smokers and undercutting arguments for clean indoor air laws.

- Menthol and other additives are used to numb the throat so the user does not feel the irritating effects of smoke.
- Tar is an inherent component of cigarette. It consists primarily of polycyclic aromatic hydrocarbons and forms the residue after Nicotine and moisture have been extracted.
- Many of these hydrocarbons are documented carcinogens, including nonvolatile Nitrosamines, aromatic amines, and polycyclic hydrocarbons.
- Tar also contains metallic ions and several radioactive compounds such as polonium-210.
- Moreover, the high temperature of inhaled smoke, or a warm pipe stem held in prolonged contact with the lips and oral mucosa can induce and cause harmful morphological changes in the lips and buccal cavity.

Cigarette smoke and its Chemistry

Knowledge of the chemistry comes very handy for the pharmacist and it should be used effectively while counselling the clients in need of service.

- Cigarette material and its smoke contains over 4,000 chemicals.

- Majority of these chemicals are present either naturally or in the materials used to make cigarette or added to formulate a glamorous and addictable product or is formed when the cigarette is burnt to inhale the smoke.
- Cigarette smoke contains 'TAR' which is a group of Cancer causing (Carcinogenic) chemicals
- The 'Tar' gets deposited in the lungs as a thick, sticky substance.

Additives and smoke constituents

- Disclosure of the ingredients, including flavorings and other additives of any product intended for human consumption is a standard rule in almost all the countries.
- But, cigarette appears to be an exception as surprisingly, no cigarette manufacturer discloses the contents of the cigarette they produce and in the smoke that is inhaled.
- Tobacco companies use additives that perhaps may not be totally safe for the smokers including passive smokers.
- These additives are in addition to scores of toxic and other carcinogenic substances that are generated by the burning of the cigarette.

Table –1 – Smoke Constituents

Chemicals identified in the gas phase of tobacco smoke include:	Some of the chemicals in the particulate phase include:	Additives and smoke constituents
Acetone	Aniline	Acetaldehyde (an additive believed to work synergistically with nicotine to enhance addiction)
Acetonitrile	Benz(a)pyrene	Acetone (toxic solvent)
Acethylene	Catechol	Ammonia (added to boost absorption of nicotine)
Ammonia	Hydrazine	Arsenic
Carbon dioxide	Napthalene	Cadmium (known human carcinogen)
Carbon monoxide	Methylnaphthalene	Carbon monoxide (highly toxic)
Dimethylinitrosamine	Methylquinolines	Cocoa (one of many sweeteners added to mask the taste of tobacco; also acts as a bronchodilator allowing smokers to inhale smoke more deeply into lungs)

Hydrogen cyanide	Nicotine	Formaldehyde (probable human carcinogen; best known as an embalming fluid)
Methane	NNK	Mercury
Propane propene	Phenol	Nitrosamines (probable human carcinogens)
Pyridine	Pyrene	Polonium-210 (radioactive element, a known human carcinogen
Methylchloride	Quinoline	
Methylfuran	Stigmasterol	
Nitrogen oxides	Toluene	
Nitrosopyrrolidine	"Tar"	
Propionaldehyde	Water	
2-butane	2-naphthylamine	
3-picoline	4-aminopiphyenyl	
3-binylpyridine		

- There is nothing like a safe cigarette and cigarette smoking can never be safe and supportive to our well-being.
- Smoke from whatever source is harmful and directly inhaled smoke from whatever source is always dangerous to health.
- Cigarette makers are cannot be our well wishers.

- Cigarette is a fast moving consumer goods (FMCG)
- Consumers have a fundamental right to know which compounds they are inhaling.
- Disclosure is also essential for government authorities to regulate and fulfill their obligation towards public safety.
- There is nothing like harmless, less harmful, toxic-free cigarette. Any such claim should be viewed as a trade gimmick to fool innocent vulnerable population.
- Well, we should not get carried away by such claims like 'safe cigarette' and let's have a clear understanding that cigarette smoking can never be safe and cigarette smoking is an invitation to various chronic, crippling and deadly diseases that takes away the enjoyment of life.

CHAPTER - IV

PHARMACOLOGY OF NICOTINE

The knowledge of how the body reacts / behaves with the cigarette smoke and how the contents of cigarette and its smoke acts on the body helps to understand and corelate the problems of the smoker with the smoking habits.

- Nicotine is an alkaloid soluble in water and fat (lipid).
- It is a colorless liquid in its natural state that turns brown and acquires the familiar odour of tobacco on exposure to air.
- Its half-life (biological half life) averages to 2 hours (range 1 to 4 hrs). Hence the frequent itch to smoke often.
- It is metabolized to a number of metabolites including Nicotinine.
- The half-life of Nicotinine is 16 to 20 hours, so it is a more suitable marker than Nicotine for affirming Nicotine use than the presence of the alkaloid itself.
- Nicotine in tobacco reaches the brain with rapidity similar to delivery by intravenous injection.
- Cigarette smoke is acidic and is inhaled with sufficient suction force to reach pulmonary alveoli where absorption is rapid.

- Nicotine passes from the lung into alveolar capillary blood and is transported to the heart, then to the brain.
- Peak Nicotine concentration in arterial plasma may be ten times greater than in venous concentration.
- It crosses the blood-brain barrier readily and reaches the brain within 5 to 8 seconds of inhalation.
- This prompt absorption and rapid availability of nicotine to central receptor sites explains the "rush" that smokers experience very soon after the first puff and why their craving for tobacco is satisfied quickly.
- The rapidity in delivery of inhaled Nicotine to the brain allows for moment-to-moment titration of the dose to modulate the smoker's desired effect.
- Nicotine exhibits complex and occasionally unpredictable actions on the body.
- It stimulates nicotinic receptors in the central and peripheral nervous systems to produce both stimulant and depressant phases of action on all autonomic ganglia.
- The diverse physiologic outcome of Nicotine on the human body results from the summation of all opposing pharmacological actions on this myriad of central and peripheral target sites.
- Following activation of nicotinic receptors, Endorphins, Acetylcholine, Nor-epinephrine, Dopamine, Serotonin,

Cortisol, Vasopressin, Growth Hormone, and Adreno-corticotropic hormone and hosts of neuroendocrinal harmones are released,triggering activation of many Biochemical and Chemico-physiological activities, many a time unnecessarily.

- Absorbed Nicotine not bound to central receptors is delivered to peripheral sites, where it binds specifically to Acetylcholine receptors at all autonomic ganglia, neuromuscular junctions, and the adrenal medulla.
- Activation of these receptors augments the central actions. Blood pressure and heart rate for example, are increased.

Table – 2 - Actions of Nicotine in humans

Affected Systems	Effects
CNS	Arousal or relaxation Enhanced concentration, vigilance Appetite suppression Electroencephalographic changes
Cardiovascular	Increased heart rate, cardiac contractility, increased blood pressure

Cutaneous	vasoconstriction
Systemic	venoconstriction Increased muscle blood flow Catecholamine release
Metabolic	Lipolysis with fatty acid release Increased energy expenditure
Endocrine	Increased growth hormone Adrenocorticotrophic hormone/cortisol Vasopressin Beta endorphins Inhibition of prostacyclin synthesis

- Cigarettes deliver sufficient Nicotine to establish and sustain dependence.
- From each cigarette containing 6 to 11 mg of Nicotine, a smoker will absorb 1 to 3 mg, depending on how often and intensely he inhales the cigarette smoke.
- It also means that frequency of smoking depends on demand [commonly called itch] for nicotine charge.
- At the rate of a 10 cigarettes per-day, the smoker typically absorbs 20 to 40 mg of Nicotine each day, with plasma concentrations of 25 to 35 mg/mL achieved by afternoon.

CHAPTER - V

MYTHS & REALITIES ABOUT SMOKING

There are lots of wrong or misconceptions among people particularly the youngsters, youth and the beginners about the cigarette, the smoke inhaled and the purported glamour value added to it and to the life and life style through misleading advertisements.

It is unfortunate that cigarette smoking was glamorized in sixties and seventies by the movie heroes and successful sportsman whom the young population had accepted as their 'Roll-models'.

- Ask any smoker 'Hi', why are (do) you smok(e)ing? You will get a variety of but typical answer like.

  Oh' for the heck of it !,

  I need a fag with morning coffee to clear my bowel,

  Oh, I am getting bored of waiting since... I wanted to relax,

  The work was heavy, brow beating, ...I wanted to relax,

  Oh, what's drink Yaa without fag!,

  Its great with drinks,

  Its great after drinks

  I was very much upset over the happenings.

I wanted to relax,

I have no work, feeling bored, I don't get sleep .....

- Well, there appears to be no end for such varieties of answers as if a fag (Smoking) is a must before, during and after each and every event of the day and night.

- The myths and misconception on smoking are there in both the sexes.

- Remember kissing a smokers is like kissing an ash tray.

Male Smokers

Myths	Reality
It's a manly masculine habit	It makes 'Smoker' Physically weak, Shrinks the chest.
Its a sociable habit	It makes the 'Smoker' most unsociable, drives everyone away or he will be driven away from all
Linked to good health	Smoking itself is a disease to be treated. It makes 'Smoker' sick and good health becomes a mirage as long as 'Smoker' remains a smoker.
Linked to happiness	It makes the 'Smoker' and his family most unhappy. Smoking and happiness cannot co-exist.

Linked to fitness	Due to decreased lung capacity It makes 'Smoker' a misfit for all normal life activity.
Linked to wealth	It makes 'Smoker' financially poor day by day.
Linked to status and power	Loss of vitality, sick look makes 'Smoker' Lose his status and power very fast
Linked to sexual strength	It makes the smoker sexually very weak and may lead to impotence as well.

Female Smokers

Myths	Reality
Smoking gives vitality, helps in slimming, and gives modern look :	It makes the smoker physically weak and lose vitality and body shape.
Modernity	It makes and gives the smoker a sick look and she will not be able to sing, dance and play sports. Even normal small work becomes strenuous. So modernity becomes a distant dream.
Emancipation	It makes the smoker over dependent socially and

	economically leading to embarrassment and some times may lead to depression and serious crimes.
Sophistication	It makes the smoker obnoxious.
Sexual allure.	It makes the smoker sexually weak, least attractive and repulsive.

- In reality, smoking causes diseases, prolonged suffering, very aged look in early age, blunts memory, decreases working capability, and slowly cripples the person and pushes him / her to bed on way to miserable death.

Youths & Smoking

Among those young people who smoke, nearly one-quarter are found to have smoked their first cigarette before they reached the age of ten

- Youthhood is the prime and enjoyable stage of life and is equally a vulnerable period..
- The quality of old age life depends on the quality of life maintained during youth hood.
- It is like money saved for rainy day.
- A well maintained youth-hood provides luxury of good health through out life even in old age.

Factors influencing the youth and children

Several factors are responsible for the youths to get into the habit of smoking early. These include :

- Lack of moral values
- Ignorance of multiple ill effects of smoking
- Glorified irresponsible advertisement by the tobacco industry effectively shadowing moral values and ill effects.
- Parents, Guardians and teachers smoking before the children resulting in lack or loss of moral control
- Easy availability of tobacco products
- Affordable price within the pocket money
- Peer pressure of friends and siblings' smoking.
- An elite feeling in holding a cigarette being influenced by leading cinema heroes and sportsman.
- Delayed marriage.

Passive Smoking

- A non-smoker inhaling the smoke emitted by a smoker is called passive smoking.
- **The emitted smoke is of two types :**

  Side-stream : Smoke that comes out of a burning cigarette

  Main stream : Smoke exhaled by the smoker

- "Exposure to passive smoke is as dangerous as direct smoking".

Cigarette marketing

The most unfortunate aspect about cigarette is its ease in marketing.

- Once a customer is ever a customer and resale is assured.
- The only strategy required is to catch a new customer which is accomplished through advertisements and other social factors explained above.
- Even this is made easier, as one smoker can induce a non - smoker to smoke.

Smoking Prevalance

- Smoking is prevalent in both genders
- But fortunately females smokers are far less than males in India.
- Smokeless tobacco is used by both the sexes and is as dangerous as smoking.
- Constant contact with tobacco damages the surface and deep lying tissues causing cancer.
- Smoking and / or chewing being devoid of food value also affects digestion assimilation and absorption of food.

CHAPTER-VI

IMPACT OF SMOKING

"An hour a day in a room with a smoker is nearly a hundred times more likely to cause lung cancer in a non-smoker than 20 years spent in a building containing asbestos."

- Sir Richard Doll, 1985

When a person begins to smoke, the risk of he / she contracting cardiac, pulmonary and cancerous diseases also begins and chases him to catch up with every inhalation.

The thousands of chemicals besides the soot of the cigarette inhaled for decades keep on acting on the various tissues and body systems causing changes in them ultimately leading to the irreparable deformity of the organ causing failure of the system to function normally.

The Health complications or the pathological effects can be grouped into two categories:

- Immediate effects
- Delayed effects that occur after decades of smoking

Immediate effects

1. Cough
2. Syncope

3. Giddiness
4. Loss of appetite
5. Hyper acidity
6. Dyspepsia
7. Frequent inflammation and infection of respiratory track
8. Sleeplessness or irregular sleep
9. Discoloration of lips and teeth
10. Foul smell in the mouth repulsive to others
11. Certain cardio-vascular disturbances.

Delayed effects

1. Pneumonia
2. Bronchitis
3. Chronic cough
4. Worsening Asthma and Wheezing
5. Middle ear disease
6. Neuro -behavioral impairment
7. Cardiovascular disease in adulthood
8. Organic diseases of the kidney
9. Cancer
10. Interactions with drugs

– Cigarette in a way is a poison.
– Smoking damages and destroys the body and the system.

– A smoker loses alertness, memory, stamina and vitality much faster and is bound to catch up with incurable diseases on aging. ¨It cuts short the happy and healthy period of life through early aging process, impotency, and develops visible symptoms of neuritis like shaking fingers and hands etc very early.

General pathology

- A large number of pathologies correlate directly with tobacco use.
- The chance of developing one or more of these diseases increases with the extent of exposure.
- This is determined by the number of cigarettes smoked per day and the amount of smoke inhaled.

Impact on life span

- Smokers life expectancy gets reduced on an average by 5 to 8 years, or approx. 5.5 minutes of life with each cigarette smoked
- The over-all mortality rate is double in male smokers (smoking 20 cigarettes per day) compared to non smokers
- The over-all mortality rate is five-fold more in women (smoking 10 cigarettes per day) compared to non smokers

  - These people die invariably from fatal coronary heart diseases besides cancer compared to nonsmokers.

Impact on pregnancy

Pregnancy is a precious part in woman's life. Such a lovely part of women's life gets poisoned by the tobacco smoking. The most wretched thing that happens is the poisoning of the baby at its prime growing tender life by the carrying mother smoking or chewing tobacco. Therefore,

- Smoking during pregnancy is harmful both to the mother and the baby
- A pregnant woman's exposure to other people's smoking (passive smoking) is also harmful to her foetus leading to malformed/sick baby.
- The effects get compounded when the child is exposed to passive smoking after birth.
- The risk of lung cancer is 20 and 30% more in non-smokers exposed to passive smoking and there is an excess risk of heart disease.
- The damage due to Smoking includes miscarriage, premature delivery, delivery of baby with low birth weight and birth defects, and prenatal death.
- Sudden Infant Death Syndrome (SIDS) has also been linked to parental smoking behavior.
- Much of the health impact of tobacco on children comes from smoking by adults in the environments where children live, study, play and work, because children

breath air contaminated by secondhand smoke or Environmental Tobacco Smoke (ETS).

Impact on heart and vasculature

- Pathology related to tobacco use includes damage caused to the coronary, cardio vasculature and peripheral vasculature.
- Nicotine stimulates the heart rate and elevates blood pressure. It also induces electrocardiograph (ECG) changes.
- Nicotine increases oxygen consumption of the myocardium-
- The inability to perfuse the myocardium with sufficient oxygen in response to increased demand can lead to a condition called 'Ischemia'.
- 'Angina pectoris' or 'Myocardial insufficiency' and 'Coronary spasm' are the outcome or the fall out of smoking. These are fatal and could be considered as a warning bell for any fatal eventuality in immediate future.
- Blood coagulates more readily in smokers as compared to nonsmokers.
- Laboratory investigation has demonstrated that Nicotine can cause platelet hyper-aggregation leading to embolism (Thrombosis) and paralysis

- Cigarette smoking may aggravate peripheral vascular disease since thrombosis correlates positively with atherogenesis and acute myocardial infarction. Smoking also elevates serum lipids concentration. Both these effects can add to the atherogenic process.
- Studies have substantiated the presence of a condition called "Smoker's Cardio-myopathy"

Smoking & Cancer

- Smoke from cigarettes, pipes, bidies or cigars contains about 4000 chemicals among which about 200 are known poisons and 43 are known to cause Cancer (Carcinogens).
- But remember, Nicotine in natural form does not cause cancer. however, it is the Nitrosated tobacco in smoke, and smokeless tobacco when cured is converted to nitroso-nor-Nicotine and other carcinogens.
- Smoking causes the Cancer of the following organs or systems :

  Oral Cavity, Esophagus (Food Pipe), Larynx (Voice box), Liver, Pancreatic gland, Trachea (Air pipe), Lungs, Urinary Bladder, Kidney, Prostate gland, Cervix (female genitals), Breast, Skin, etc.
- They are caused by one or more carcinogens present in smoke and not by Nicotine as such.

- Therefore, Nicotine replacement therapy can be used safely without the added risk of carcinogenesis.
- Getting rid of smoking habit reduces the risk of developing cancer.

Impact on lungs

- Lungs and respiratory system are the first ones to be exposed to and affected by smoking. Neverthless, the poisinous contents of smoke can affect any part or any system in the body.
- Emphysema, Chronic Obstructive Pulmonary Disease (COPD), respiratory infection, and chronic bronchitis are some of the dieseases caused by a variety of mechanisms including actions on proteolytic enzymes and interference with immune functions and clearance mechanisms, due to smoking.
- About 80% of all cases of COPD is reported to be due to Cigarette smoking.
- Tobacco smoke synergistically potentiates environmental carcinogens such as asbestos and increases mortality from lung cancer
- Nicotine is only one component of tobacco. At least 4000 other potentially harmful chemicals have been identified in tobacco smoke. Included are alcohols, aldehydes, ammonia,carbon dioxide, carbon monoxide, creosols, cyanides, nitrogen oxides, volatile

Nitrosamines, sulfur-containing compounds, hydrocarbons, ketones, formaldehyde, acetaldehyde and acrolein.

- In addition to its toxic chemical content, cigarette smoke physically transports particulate matter into the respiratory system that adds to its pathology.

Stress & Smoking

Stress is not an abnormality or a disease. It is only a functional reaction demanding rest or change in work / environment.

Stress and strain is a condition reflected in the form of tension/fear/ anxiety / tiredness / vague symptoms of pain and discomfort. One or the other of these would be there in any individual. But a smoker encounters more stress and starin being added on with the crave stress for smoking. Hence normal and crave-stress should be differentiated.

A normal stress could be alleviated by many means other than smoking. But a stress arising out of crave for nicotine needs to be treated as otherwise the person would fall back to smoking to overcome the stress.

- Many times the stresses are subjective to events and situation. Change of occupation change in subject of talking or thinking, change in environment change of

company, sometimes a cup of coffee / tea/ fresh fruit juice would help in overcoming stress.

- Such simple methods could be adopted even by the smokers to overcome their stress and try to come out of the smoking habbit:
- Many times stress and smoking follow one another in a smoker. Stress leads to smoking and smoking causes more stress. It is a viscious circle.
- Stress among smokers could be due to the urge (itch) to smoke or due to withdrawal or quitting of habit. If the smoker succumbs to such crave he finds it difficult to come out of the habit easily.
- Smoking reverses withdrawal as a direct calming effect on stress.
- Persons who smoke to relieve stress should be informed that nonsmokers report lower base stress levels than smokers.

Other pathologies

1. Drug interaction: The thousands of chemicals that regularly enter the body change the normal body chemistry resulting in typically changed behaviour / response of the body system to the drugs. Life saving drugs sometimes become ineffective.Smoker some

	times becomes hypersensative to many of the substances including food and drugs which we commonly call 'Allergy'.
2. Depression :	Smoker becomes emotionally hyper sensitive in behaviour and develops extreme irritability and violent tendencies.
3 .Osteoporosis :	Osteoporosis sets in at an early age. The bones including teeth gums become weak, fragile and prone to fracture on simple injury.
4. Alzheimer's Disease :	Serious loss of memory, thinking capacity, loss of reflex mechanism
5. Diabetes :	Early on set of heriditory diabetic condition and induced diabetic condition.
6. Peptic Ulcer Disease:	The smoker is prone to develop ulcer very fast as smoking may alter the integrity of the gastric mucosal barrier to acid peptic corrosion or reduce the alkaline pancreatic secretions.
7. Cataracts	Chances of early cataract cannot be ruled out.

8. Graves' Ophthalmopathy

9. Periodontal Disease - Diseases of the gums

NOTE :

Some of these relationships have not been confirmed at present. For example,

- A suspected relationship with Alzheimer's disease needs further clarification before it can be affirmed.
- Other relationships such as increased numbers and severity of allergies are clearer in this association.
- Still others, including peptic ulcer disease and various gastrointestinal disorders and diabetes mellitus, are influenced by numerous factors, such as duration of both the medical condition and smoking.

Impact on non-smokers

It is reiterated again that the health risks of tobacco smoking are not limited to smokers alone. Even individuals who are exposed casually to tobacco smoke let out by the smoker are also at an increased risk.

- The US Environmental Protection Agency (EPA) calls passive tobacco smoke as one of the most harmful 'Indoor Air Pollutants (IAP).
- Children of smokers are at special risk because most of the time they cannot get away from the smoky environment caused by their own parents.

- It is a cause of one or more of the various cardiovascular, and respiratory diseases including cancer in healthy nonsmokers;
- Children of parents who smoke, experience an increased risk and frequency of respiratory disease compared to children of nonsmoking parents.
- Separating smokers from nonsmokers in the general area (eg, in public buildings such as restaurants) is only a farce as it does not eliminate the risk to nonsmokers due to passive tobacco smoke. Such seperation at the most may keep the smoker away but not his smoke.
- A 'Population-based case-control' study of lung cancer in residents of New Mexico, for example, has revealed that **'A Non-smoking spouse of a smoker is also at an increased risk of developing lung cancer'.**
- The results of an international study has revealed that 'Nonsmoking women married to smoking husbands had a higher incidence of lung cancer compared to women in homes where there were no smokers'.
- The EPA has classified passive smoke as a Class A carcinogen.
- Smoking causes an average of about 3000 deaths due to lung cancer among Non-smokers. The smoke has compromised the respiratory health of thusands of children in houses where there are one or more smokers.

Impact on drug action

- Smoking can induce alterations in:

  Drug absorption
  Drug distribution
  Drug metabolism / degeneration / detoxification
  Drug excretion either in original form / in altered simple compound form

- But, it is difficult to identify which component is responsible for the altered outcome of the drug therapy, because of the numerous toxic compounds in tobacco smoke.
- Likely substances in the tobacco smoke that interfere withthe drug action include 'Polycyclic aromatic hydrocarbons', as they are known stimulants of hepaticmicrosomal enzymes that normally detoxify the drugs.
- As per the reports, larger drug doses or more frequent administration may be required to maintain therapeutic blood levels in smokers.

Example :

- The half-life of theophylline increased by 36% within 1 week after smoking cessation which means efficacy of drug improved with quitting of smoking.
- This improvement with the cessation was not altered or affected by Nicotine polacrilex gum a nicotine

substitution therapy used to help to quit smoking - suggesting that one or more substances in tobacco smoke other than Nicotine was interfering with the normal action of the drug.

- Benefit from H2-antagonists and antacids in peptic ulcer disease are reduced significantly in smokers. Smokers require higher dose.
- Smoking may alter the integrity of the gastric mucosal barrier to acid peptic corrosion or reduce the alkaline pancreatic secretions.
- Psychotropic drug action on the central nervous system is reported to be modified by smoking.
- Reduced sedation is attributed to Nicotine-induced arousal of the central nervous system.
- Efficacy of analgesics may be reduced in smokers.
- Smoking may slow insulin absorption by reducing blood flow from subcutaneous sites.
- In one trial, Propranolol was less effective than a Thiazide diuretic in reducing blood pressure and increased risk of stroke in smokers, while both drugs were equally effective in nonsmokers.
- Differences in drug concentrations in plasma have not been determined routinely in smokers for all drugs. as the quantity of inhaled smoke is variable. In the absence of such data, unlike alcohol it is obvious to understand that:

"Dangers of smoking is not related to degree or extent of smoking and the type of smoking materials used".

- Qualitative and quantitative relationships between smoking and drug action is therefore still largely unknown.

Therefore, it is important that the dosage of administered medications needs to be modified when patients are smoking and when they have achieved abstinence from tobacco.

Health impact indicators

The epidemiological evidence on the harmful effects of tobacco is based largely on studies on people who smoked cigarettes.

- Tobacco caused an estimated over 3 million deaths in 1990, that had risen to 4.023 million deaths in 1998.
- It is estimated that if smoking is not contained, deaths attributable to tobacco smoking would rise to 8.4 million in 2020 and reach 10 million annual deaths by about 2030 (more due to burden of disease attributable to tobacco)
- In one study, investigators have observed excess morbidity and mortality due to smoking-related diseases among British physicians.

- Of great significance and interest was that those who stopped smoking before middle age were found to avoid almost all of the heightened risk they would otherwise have suffered.
- In a like manner, those who stopped smoking in middle age were noted to be at less risk for morbidity and mortality than those who continued to smoke.
- 'Quitting' clearly benefits not only the smokers, but also their families, co-workers, employers, co-stayers and the environment around.
- 'Quitting smoking is in a way 'A Social service'.
- Recent research has reported a host of other health impacts,strengthening the arguments smoking is an addiction and should be treated through medico-social apptroach.
- It also warrants comprehensive strategically well planned tobacco control and containment measures including well structured legislation so that the tobacco materials are not easily accessible particularly to the children and youths and smoking is prohibited in all public places.

CHAPTER - VII

DEPENDENCE AND WITHDRAWAL

- Nicotine addiction is both a chemical and psychological dependence. [Psycho-chemical dependence]
- Psychological and behavioral aspects of Nicotine use , meet the same primary and additional criteria of drug dependence as in opiates, cocaine, alcohol, and other known causes of chemical-induced dependence.
- Effect of intravenously injected Nicotine and Nicotine inhaled from cigarette smoking is similar.
- Low-Nicotine cigarettes are not acceptable as a substitute for regular cigarettes because, to compensate for the smaller amounts of Nicotine inhaled with low-Nicotine cigarettes, smokers upwardly adjust both the rate of inhalation and the number of cigarettes smoked.
- Harm in no way is reduced by low-Nicotine cigarettes.
- The term 'MILD' cigarette being used in smoker's ciecle and also used by the cigarette manufacturers and traders is only a myth.
- Enforced deprivation results in Nicotine-seeking behavior and needs to be attended both socially and medically.
- Symptoms of Nicotine addiction are similar to that of illicit drugs. The addictions may cause one or more of the symptoms like, a) Anxiety b) Confusion c) Impaired

Concentration d) Irritability e) Impatience or f) Restlessness g) 'Losing-out' condition and loss of memory.

- Approximately two-thirds of adolescents who smoke one to three cigarettes per day gradually become regular smokers, and their cigarette usage increases over the years and the count runs into packs.
- This pattern mimics the pattern that is observed in heroin users.
- Therefore, in a successful smoking cessation program success is augmented by Nicotine - replacement therapy.

Withdrawal symptoms

Nicotine withdrawal can elicit a wide array of symptoms ranging from mild to severe discomfort of varying intensity which again is variable from person to person.

- Withdrawal symptoms begins immediately and reaches maximal intensity in 24 to 48 hours after Nicotine cessation.
- Withdrawal symptoms though appear as predictably, unpredictable symptoms cannot be ruled out. However these systems subside gradually over 2 to 3 weeks.
- Craving for tobacco (ie for Nicotine) may abate within weeks, or sometimes persist for years after cessation.

- It is this craving that is responsible for the high rate of 'Fall-back' on smoking among smokers after cessation.
- It is now accepted that the addictive nature of cigarette smoking results from dependence on Nicotine, and this supports the rationale for the use of Nicotine Replacement Therapy as a support to help the smoker to quity smoking.
- Cigarette smoking a repetitive behavior is highly reinforced such that each hand-to-mouth movement is rewarded with a bolus of Nicotine delivered quickly to the brain.
- A smoker who smokes a pack a day repeats the hand-to-mouth ritual 200 times a day, or 73,000 times a year.
- Thus, the constellation of withdrawal symptoms that appear following smoking cessation may result from elimination of the reinforced repetitive smoking behavior as well.
- Interestingly, among the most highly Nicotine-dependent smokers are those who crave for a cigarette on awakening.
- Such evidences and studies have demonstrated that it is the smoke of tobacco products that are responsible for deterioration of health.

CHAPTER - VIII

CIGARETTE SMOKING - GLOBAL PICTURE

Smoking is an universal menace and the habit has pervaded like an epidemic in all countries irrespective of caste, religion, and economic strata.

- Global consumption of cigarettes had been rising steadily since manufactured cigarettes were introduced at the beginning of the 20th century.
- While consumption is leveling off and even decreasing in some countries, cigarette consumption is not coming down as smokers are smoking more cigarettes and new people are trying cigarettes.
- Even if prevalence rates fall, the absolute number of smokers is increasing.
- Thus the consumption of tobacco has reached the proportions of a global epidemic.
- Tobacco companies are milling out cigarettes at the rate of five and a half trillion a year - nearly 1,000 cigarettes for every man, woman, and child on the planet.
- Cigarettes account for the largest share of manufactured tobacco products, 96 percent of total sale value.

- Asia, Australia and the Far East are by far the largest consumers (2,715 billion cigarettes), followed by the Americas (745 billion), Eastern Europe and Former Soviet Economies (631 billion) and Western Europe (606 billion).The following statistics provides Indian tobacco use.

Annual Cigarette Consumption

Year	Per capita consumption (cigarette sticks)	Total consumption (sticks in millions)
1970	190	62908
1980	178	75197
1990	101	54867
1995	114	68540
1997	129	81514

Smokers's budget

Smokers are always be running in deficit budget, not because of commitment for any good cause but due to the smoke burning their money beyond their resources. Smokers are invariably unreliable financially.

It should be understood that the 'Cost' doesn't always mean the monetary value but includes many social and emotional issues. Here is how they suffer:

- The cost of smoking to the smokers and their families include:

  "Money spent on buying tobacco + loss of earning - days of the smoker and his/her attendant due to consequential diseases + expenditure on treatment" which otherwise could be used on food, clothing and shelter, family holidays or even on a car.

- Smoking kills a quarter of all smokers in their young earning years.
- Smoking deprives the smoker's family many years of income.
- Smokers also suffer loss of income through illness.
- Following a smoker's premature death the spouse, children or elderly parents might become destitutes.
- Family members of smokers also lose income when they abstain from work to look after sick smoker either at home or in a hospital.
- Smokers also have to shoulder heavy life / health insurance premiums, and many other miscellaneous costs, such as increased wear and tear of their personal belongings like dresses, beds, cussion seats and they may even cause major fire hazard.

Emotional Issues

- Emotional issues include:
  - ❖ Least time spent with family,
  - ❖ Moving away from wife and children to smoke,
  - ❖ Avoiding family outings to spend more time with co-smokers.
  - ❖ Failure to understand the feelings of wife and children.
  - ❖ No scope or occassion for wife and children to express their feelings

  - All these lead to a broken family.

National Economy & Tobacco free future

- The argument that tobacco industry supports the national economy and any control on production of tobacco-based materials reduces revenue and puts thousands out of job etc is a simple myth.
- On the contrary total ban on production sale results in :
  - ❖ People becoming healthy with better earning
  - ❖ Prevention of sudden loss of earned money on treatment
  - ❖ Prevention of sudden loss of life in the family
  - ❖ Lessened disease burden in the community
  - ❖ Improves their working and earning capability leading to better GDP

- ❖ Increases individual savings
- ❖ Diverts the money towards better economic growth oriented programs
- ❖ Reduces expenditure on health and social welfare sector - the society becomes least burdensome to the government.
- ❖ Makes the country a nation of healthy people which in turn leads to:

- Tobacco's will definitely cost the Governments, the employers and the environment through :
  - ❖ Social welfare and health care spending
  - ❖ Loss of foreign exchange due to decreased domestic productivity and and import of anti-smoke remedies
  - ❖ Loss of land that could grow food
  - ❖ Loss due to damage due to accidental fire
  - ❖ Damage to environment through pollution and accidental fire and deforestation
  - ❖ Absenteeism, inefficiency, loss of alertness and decreased productivity
  - ❖ Increased insurance premiums.

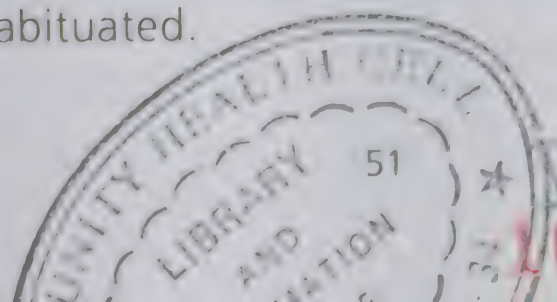
CHAPTER - IX

TOBACCO CESSATION PROGRAM – THEARAPEUTICS

The tobacco smoking or the nicotine replacement thearapy in any form may affect the action of other drugs. Hence the smokers or persons under nicotine replacement thearapy should inform their clinician the status of the their smoking or the type of NRT they are taking.

Medical treatment to help the smoker intending to quit smoking is widely available. Nevertheless, as the dictum of pharmacology and therapeutic goes, the medicine will only support the effort of the smoker to quit. The therapy itself will never prevent the person from smoking. On the contrary, the medical treatment may do more harm to a person who doesn't even try to stay away from smoking. Therefore, medical treatment is part of the total 'Tobacco cessation program' and should be followed only after sufficient counseling and only after the smoker agrees to stay away from smoking habit under any kind of pressing circumstances.

- The most effective means to prevent the detrimental health consequences of tobacco smoking is **'NOT TO SMOKE'** even out of curiosity and **'TO QUIT '** once for all if habituated.



- ❖ Many smokers however find it nearly impossible to quit, even when helped, because of their strong dependence on Nicotine.
- ❖ Quitting smoking lessens the chance of developing the pathologies described earlier.
- ❖ Over a period of 5 to 10 years after quitting, the risk declines to a level only slightly higher than that of nonsmokers.
- ❖ The indisputable fact is that smoking cessation at any age increases life expectancy.
- ❖ The primary focus of an effective smoking cessation program is to change the smoker's behavioral patterns.
- ❖ After many years of smoking, this can be extremely challenging to both the smoker and the health care professional assisting him or her to quit.
- ❖ Since many smokers have made at least one prior attempt to quit and about half of the smokers try to quit each year, new and sometimes tailor made social and therapeutic approaches are definitely needed.

Reduction method

- ◆ One such strategy that may be useful is to 'Reduce' the number of inhalation from a cigarette and number of cigarettes / day. But this method is rarely successful in achieving total cessation.

- As per a report, reduction of cigarettes per day in 564 subjects did not result in cessation of smoking among them. Therefore, reducing smoking is not helpful.

Scaring method

- Programs based on scare tactics that equate smoking to early death from serious illness, even by employing gruesome photographs is often ineffective, especially with young people.
- Young people may strongly believe that the health problems related to tobacco use will not challenge them until far in the future, and so they have plenty of time to develop the resistance and resources to deal with them.
- Some may believe that by the time health problems appear there will be a medical cure.
- Smokers may also express the fatalistic negative attitude that "Everyone must die eventually!" Others may even increase their smoking momentum to help overcome a fear of grave consequences to health caused by smoking in the first place.

Scaring the smokers to quit smoking may work only in very rare cases. Hence scaring as an exclusive method is not a reliable one.

Medical therapy

- Fortunately, not withstanding of all the excuses put forth by the smokers for not quitting smoking, effective smoking deterrent therapies are available.
- It is well established that the most effective way to support a smoker to quit smoking if he / she is unable to come out of the habit on their own, is to provide alternate nicotine source to overcome the urge / itch.

  -This is popularly called the Nicotine Replacement Therapy.

Nicotine replacement therapy

- Nicotine is the most extensively studied of all smoking deterrent aids.
- Nicotine Replacement Therapy offers a well-documented, safe, and effective aid for smokers who seek assistance to quit.
- It has consistently shown that it can almost double the abstinence rate.
- All smokers particularly high dependent smokers attempting to quit should receive pharmacotherapy, except in cases where special considerations advise against it.
- Clinical experience with trials on smoking cessation has shown that:

- ❖ The therapy is effective only when the smoker volunteers to quit smoking and seeks medical support.
- ❖ Successful abstinence is usually attained in smokers who have low to moderate nicotine dependence.
- ❖ Heavy dependant smokers may require additional intervention with other deterrants.

- ◆ As stated above, there are many devices, medicinal agents available to help a smoker to overcome the urge/ itch to smoke like: Polacrilex Gum, Transdermal Patch, Nasal Spray/ Oral inhaler, Nicotine oral Inhaler, Bupropion, Clonidine, Nortriptyline etc.
- ◆ Some of such agents don't require a prescription and can be obtained for use directly from the pharmacist at the retail chemist shop. The Packing contains clear instructions and the pharmacist at the shop will also be able to help.
- ◆ Unlike cigarette and its smoke, Nicotine replacement products:
  - ❖ Do not contain toxic substances (eg. tar, carbon monoxide etc.,)
  - ❖ Do not produce strong dependence
    - and thus are safe and effective.

Some of such smoking deterring substances are listed below:

Smoking deterrant devices	Dosage Form	R_x / OTC	Trade name
Gum - Polacrilex gum	2mg/4mg DT tablet; 2mg/4mg chewable piece; 10mg inhalation liquid	OTC	**Nulife** Commit Nicorette Nicorette inhaler
Nicotine patch	25mg per day, 50 mg per day, 21mg per day transdermal patch	OTC	Clear Nicoderm CQ Transdermal Pad
Nicotine Polacrelix	10mg/ml nasal spray	OTC	Nicorette inhaler
Nicotine	4mg/INH inhaler	R_x	Nicotrol
Bupropion tablets	100mg, 150mg SR tablets 75mg, 100 mg tablet	R_x	**Smoquit SR** **Bupron SR** Zyban Wellbutrin
Clonidine	100mcg/ml inj; 0.1mg, 0.2mg, 0.3mg tablet; 2.5mg, 5mg, 7.5mg transdermal patch	R_x	Catapres

- Nicotine replacement therapies (i.e. gum and patch formulations) that are available without prescription provide relief only from the physical dependence on nicotine without giving significant attention to behavioral dependence.
- The new oral inhaler dosage form is used in a manner similar to cigarettes, it has the potential dual advantage of providing substitution for nicotine and for the manipulative, behavioral component of the smoking act.
- The advent of nicotine replacement therapy in products such as gum initially, and later transdermal patch, nasal spray, and oral inhaler formulations, have marked a significant break through in the battle against tobacco dependency.
- Providing access to the gum and patch formulations without requirement for a physician's prescription was a second break through, because this has put nicotine replacement therapy within the reach of every smoker who wished to quit.
- The over-the-counter (OTC) availability of these products should result in more successful abstinence, fewer tobacco-induced deaths, and increased life expectancy of current smokers.
- Smokers now have greater opportunity than ever before to plan their own abstinance program from dependence upon nicotine.

- The use of nicotine replacement therapy combined with psychological and social support, at least during the initial period of a smoking cessation program is the only proven remedy to increase long-term abstinence rates.
- Weaning from these products should be encouraged for all persons attempting to achieve abstinence from tobacco and at the same time, continued use of such medication can be justified over smoking.

Polacrilex Gum - a chewing gum

- Polacrilex gum was the first nicotine replacement product widely accepted because of its efficacy in smoking cessation attempts.
- Nicotine chewing gum is a formulation that provides for user-controlled release of nicotine.
- It was designed to maintain smokers' blood nicotine levels after quitting, reducing nicotine-related cravings and withdrawal symptoms.
- Here, the nicotine is bound to an ion-exchange resin and is buffered for rapid absorption of the alkaloid through the buccal mucosa when the gum is chewed as directed.
- Placebo-controlled, double-blind studies show that Nicotine gum is effective in suppressing withdrawal symptoms.

- The gum does improve significantly the ability of a smoker to quit and the manipulative chewing action to release nicotine for absorption provides some degree of psychological support and solace to improve success in quitting smoking.
- It doesn't require prescription and can be purchased directly from a retail pharmacist.

Transdermal Nicotine Patch

- It is a discreet method of providing therapeutic nicotine by the use of the transdermal patch formulation, which only needs to be applied once a day.
- It doesn't require prescription and can be purchased directly from a retail pharmacist.
- Studies have substantiated that the patch is a consistently effective aid to smoking cessation.
- With this formulation, the drug is supplied from a reservoir contained on an adhesive patch.
- Nicotine is slowly and consistently released passively and absorbed quickly.
- Transdermal patches are usually well tolerated.
- They effectively enhance both short and long-term smoking cessation programs when used as directed.
- Skin irritation is the most commonly reported side effect which will disappear as the usage is continued. Medical intervention should be availed if the irritation persits.

Nasal spray/ Oral inhaler

- Nicotine nasal spray / oral inhaler combined with supportive group therapy is an effective aid to smoking cessation. This should be used only under medical supervision and hence should be procured only on prescription.
- The rapidity with which nicotine is absorbed when administered in this form suggests that it might be effective for patients in whom the gum and patch dosage forms of replacement are ineffective because they release nicotine too slowly.
- The nasal spray / oral inhaler dosage form requires a prescription for use.

Nicotine oral Inhaler

- The Nicotine oral inhaler consists of a white plastic mouthpiece that looks like a cigarette holder into which a replaceable cartridge containing a porous plug impregnated with Nicotine and menthol is inserted.
- Each cartridge contains approximately 10 mg of nicotine and 1 mg menthol. Menthol is added to help reduce oral irritation to Nicotine.
- When puffed, the inhaler delivers vaporized nicotine into the mouth.
- The oral inhaler dosage form is clearly safer than cigarettes and has significant potential public health value.

- Since the inhalers deliver relatively little nicotine per puff, they are likely to have low and acceptable profile. (*Published results of numerous investigations have quantified their efficacy*).
- In a study report :
  - 145 patients had received active inhalers.
  - 141 received placebo inhalers.
  - All subjects were 20 years or older and were smoking 10 or more cigarettes per day for a minimum of 3 years.
  - Subjects used between 2 to 10 inhalers per day for 6 months.
  - The success rate (active inhalers Vs placebo) was significantly greater than placebo at all time points:
    - 6 weeks, 27.6% (Inhaler) versus 12.1%;
    - 3 months, 20.7% versus 9.2%;
    - 6 months, 17.2% versus 7.8%;
    - 12 months, 15.2% versus 5%.
- The oral inhaler provides the alternative means to administer nicotine.
- It provides nicotine saturated in air via oral inhalation.
- The strong evidence that mimicking behavioral characteristics of the smoking act, in addition to nicotine intake, may play an important role in the reduction of

cigarette craving further supports this dosage formulation.

- An oral inhaler that delivers nicotine via., puffing may substitute for the actual behavioral components of smoking to be effective in smoking cessation treatments.
- The inhaler dosage form is the only dosage form of nicotine replacement therapy that addresses both physical and behavioral components of smoking, and it more than double the long-term abstinence rates compared to placebo.

Side effects

Each of the above mentioned dosage forms for nicotine replacement is effective in a significant population of smokers when used as directed. Just as any therapeutic agent the nicotine replacement therapies too have certain side effects.

- Some of the side effects that could be expected are:
  - The gum may cause hiccups, throat irritation, and flatulence.
  - The patches may irritate the skin.
  - The nasal spray has been reported to incite nasal and throat irritation, running nose, and sneezing.

Dosage

Smokers should be made to understand that they must decide and stop (avoiding decision to stop) smoking and quit completely as they begin using the inhalers.

- The initial dose is individualized to the smoker's needs.
- An oral inhaler that delivers nicotine via., puffing may substitute for the actual behavioral components of smoking to be effective in smoking cessation treatments.
- Smokers may self-titrate the level of nicotine they need using 6 and 16 cartridges a day.
- During the tapering period, they may increase usage back up to 16 cartridges a day if craving is particularly severe. They should then again taper usage downward.
- Best effect will be achieved by frequent continuous puffing over 20 minutes.
- The recommended duration of treatment is 3 months, after which patients may be weaned from the product by gradual reduction of the daily dose over the following 6 to 12 weeks.

Adverse Reactions

The occurrence of signs and symptoms of nicotine withdrawal in some patients and nicotine excess in others complicates assessment of adverse events.

- The incidence of adverse events is compounded by :
  - Minor complaints that smokers commonly have
  - Continued smoking by many patients and
  - Local irritation from both the active drug and the placebo.
- The nicotine oral inhaler is associated with local irritation in the mouth and throat

Coughing and Rhinitis

- It is a good thing the majority of inhaler users rate these symptoms as mild and subsides on its own gradually without warranting cessation of medication.
- The frequency of cough, mouth and throat irritation declines with continued use of the inhaler.
- Other adverse events reported in over 3% of patients on the active drug are
  - Taste alteration
  - Pain in the jaw and neck
  - Tooth disorders
  - Sinusitis
- The nicotine oral inhaler is associated with local irritation in the mouth and throat. The possibility of instances found in a study report is as under :

Local irritation in mouth and throat: 40% with active Vs 18% with placebo),

Coughing: 32% with active Vs 12% with placebo

Rhinitis: 23% with active Vs 16% with placebo

Combined Use of Oral Inhaler and Transdermal Patch

Combining the transdermal patch and oral inhaler would seem to be a rational approach to improve the efficacy of Nicotine Replacement Therapy,

- This combination provides the advantages of a fixed-dose delivery system (patch) with a self-dosing system (inhaler).
- The most common adverse events includes throat irritation from the inhaler and itching from the patch.
- Conclusion drawn from the studies has demonstrated that the combination of oral inhaler plus transdermal patch provided a more effective method for inducing smoking abstinence than using the inhaler alone. The study supported the hypothesis that both short - and long - term abstinence rates can be improved by administering Nicotine by different formulations concomitantly.

Other Therapies

Bupropion

- Bupropion is 2-Tertiary butyl amino 3 chloro propion phenone molecule. It is an anti-depressant drug but

different in structure from the Tricyclic Antidepresants and Selective Serotonin Replacement Inhibitors (SSRI).

- Bupropion available in the form of tablets require a prescription for use. Marketed initially for treatment of depression. With its availability, bupropion became the first effective, FDA-approved, Nicotine-free product for aiding smoking cessation.
- Its efficacy as a smoking deterrent was shown in two placebo-controlled, double-blind studies of more than 1500 subjects who smoked at least 15 cigarettes a day.
- In one study, bupropion was compared with an oral placebo product. In an another study, it was compared with both placebo and another therapy: either a Nicotine patch alone or in combination with the patch.
- At the end of 4 weeks, the cessation rates were :

  35% with the patch

  49% with bupropion

  58% with the combination of bupropion and the patch

  23% with placebo

- **The best result with Bupropion was observed in patients who used Nicotine patch concurrently.**
- There is a dose-dependent risk with bupropion for convulsive seizure, in which case this drug should not be administered to persons with a seizure disorder (Epilepsy).

Caution:

Bupropion is also not recommended to persons:

- Who are taking or have recently taken a monoamine oxidase (MaO) inhibitors, like: Selegiline, Phenelzine, Trannylcypromine, Moclobemide etc.,
- Those with a history or positive diagnosis of bulimia or anorexia nervosa. Insomnia has been reported in dose-response smoking cessation trials.

Clonidine

- Clonidine is an alpha-2-adrenergic stimulant that may be used to reduce craving for nicotine and modify the intensity of nicotine-withdrawal symptoms.
- While some smokers may report modest relief from their withdrawal symptoms, clonidine is not approved for use as a smoking deterrent.
- Hence clonidine is to be used under medical supervision.

Nortriptyline

- It's a prescription drug to be used under medical supervision.
- Like clonidine, nortriptyline may be helpful to some individuals in a smoking cessation program.
- Nortriptyline has been studied for use as a smoking cessation aid.

- Both clonidine and nortriptyline are classed as second-line treatments.
- Under physician supervision, both may be used on patients who are unable to use first-line medication because of contraindications, or on patients who fail to respond to a previous trial with first-line therapy.

Ineffective Treatments

Some proprietary smoking-deterrent products in the past have claimed varying benefit to smokers to withdraw from nicotine.

- One group was given the nicotinic drug lobeline sulfate, which weakly mimicked nicotine's actions on the autonomic nervous system.
- The second group was given silver acetate, which imparted an objectionable "metallic-sweet" taste to the mouth when tobacco smoke was inhaled.

While both ingredients were safe when used as directed, neither was found effective as a smoking deterrent.

CHAPTER- X

TOBACCO CESSATION PROGRAM - BEHAVIORAL THERAPY

'Dreaming' is the first step to success and 'Not dreaming' is a crime.

- A.P.J. Abdul Kalam
President of India

Quitting smoking by the smoker serves not only his personal interest but also a social cause. There are several ways and means to quit smoking provided the smoker volunteers to quit. However here are some tips that can help the smoker to quit smoking.

Dream

- The first step towards quitting smoking is to dream – a dream of owning a good house, a good car, having a smiling well dressed family with good habits, children in good reputed schools and colleges, a picnic / a holiday in a resort, a well respected status in the society.
- Well, these can become a reality if there is a strong desire to achieve the level even at the cost of sacrificing the habit of smoking. These cannot be achieved when one hangs on to smoking.

- A smoker can make only the traders and manufacturers rich and the smoker becomes poorer with each puff.
  - Tobacco dependence is a chronic condition (habit) that often requires repeated social and medical intervention to overcome.
  - Social intervention doesn't always mean targeted advice and counseling. An organized movement and casual awareness creating program without pin-pointing any individual will have a better impact.
  - Effective treatments are available that can produce long-term or even permanent abstinence.
  - Hence, every person who uses tobacco should be offered social help and if necessary medical assistance too to come out of the dependence.
  - Just as in case of other habits, there are people who are willing / unwilling even to give a try to quit tobacco use, on their own or to accept social / medical counseling and therapy to quit tobacco use
  - But all of them need motivation with intermitent interventions to quit.

Helping people to change

- The mind-set of the counselor plays a major role in motivation. Hence it is important that the counselor has a strong positive mind set which he should reflect in his approach and behavior towards his client.

- Never pre-judge negatively any smoker. Remember every smoker has an inner desire to quit.
- The probabilities are "**Possible / not possible / difficult / impossible"** for both the smoker and to the counselor.
- These are the commonly encountered situations while dealing with the smokers.
- But, a right and timely professional approach, motivation and art of talking make all the difference in motivating a smoker to quit.
- The fundamental need is to understand the smoker in his own shoes without branding him or prejudging him as an incorrigible.
- He should be treated kindly, courteously and with all regards and respect.
- This will help him to come closer to you and gradually he comes under your professional control. Once this happens 50% of your job of counseling is done.

Change through reforms

"Change" in this context should be understood as a positive response even if the smoker remotely expresses directly or indirectly his desire to come out of the habit and should not be interpreted only to mean total cessation / abstinence. It is very much akin to reforms. Hence should

not be expected to happen like a revolution. Let's remember 'Reforms' are long lasting than 'Revolutions'.

- It is wrong to conclude 'people do not change'.
- Immediate resistance, casual acceptance of counselled information, avoiding counseling, telling lies on having quit smoking or dominatingly giving justification for smoking are all very common and are on expected lines.
- People are always amenable / willing to 'change' provided a convincingly right information is made available and right atmosphere is created.

Forces that govern 'change' :

- These are the forces that keeps a person in his / her current behavior :
  - His liking and attachment to his current behaviour
  - His fear over new behaviour
  - Forces that encourage or discourage change to new behaviour
  - Dislikes in the current behaviour
  - Imagination / perception of new behaviour.
  - Irrational adament attitude.

Barriers to change

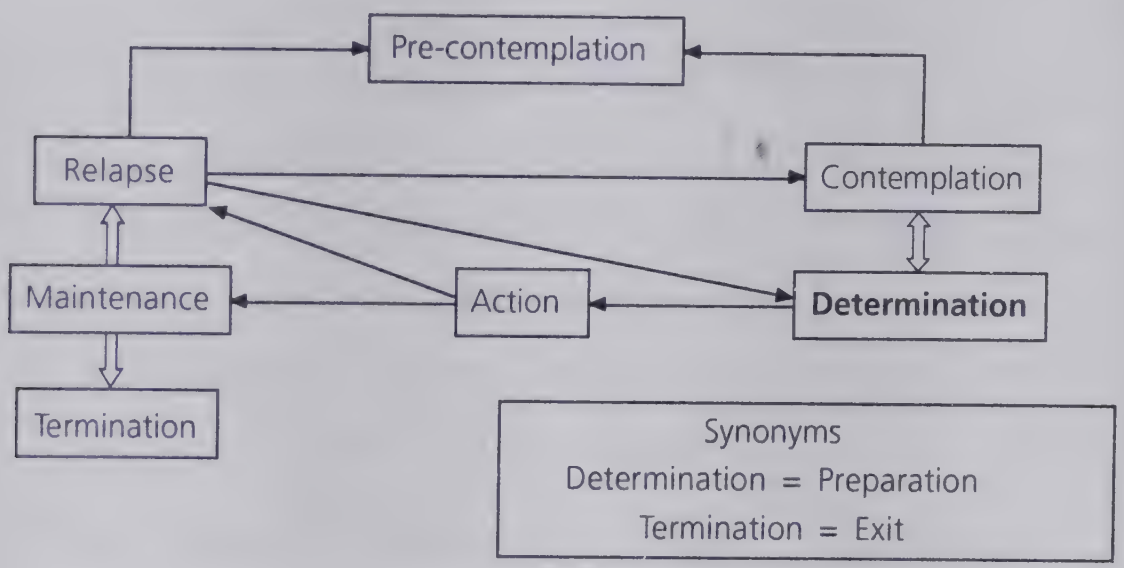
Generally the process of change always passes through barriers. But the counselor should have a clear vision of the

goal to guide the patient through the barrier. The change could be seen in five stages and each of these stages has to be understood with a positive mind-set as under :

Stages	Barriers	Goals
1. Pre-contemplation Not thinking about quitting in the foreseeable future	Lack of knowledge of risks / consequences of the habit and / or Lack of self-efficacy and /or contentment and / or resigned attitude.	Helping smokers in Pre-contemplation making the transition to the next stage of contemplation is the right goal.
2. Contemplation Thinking about quitting but not ready to quit	Lack of knowledge of risks / consequences of the habit and / or Lack of self-efficacy and / or contentment and /or resigned attitude. Indecisiveness	Move him to the next stage of determination; promote commitment to change.
3. Preparation / Determination: Committed to and getting ready to quit	Loss of commitment / Lack of knowledge of options for change, making decisions and plans for change	Design a plan for change and move to the stage of action

4. Maintenance: Remaining a non-smoker	Back pulling factors / temporary feeling of depression /loss of old friends /jeering by old friends / adjustment in finding new social group	Help to sustain

- The goal for counselor is to help people to strengthen their commitment to change and to develop a plan to prepare them well for change and to sustain.
- This can be depicted graphically as under :



Motivational Counseling

- All pharmacists are not molded to counsel and motivate. But all can become counselors and motivators by learning the skill of communication and motivation. Here is how one could learn and train oneself to be the counselor and motivator.

Step – 1 :

- Shed down your inhibition and complex feelings.
- Be proud that you are a pharmacist with a professional commitment to the society.
- Study and understand the profile and ill effects of tobacco and attend seminars / group discussions in with colleagues.
- Write down talking points and motivate yourself to be a counselor and attend the training programmes.

Step – 2 :

- Never expect success on each attempt.
- Every case failed is a new lesson, new training to sharpen your skill.
- Note down all questions encountered and be ready with information before the next counselling.
- Remember you will gain new experience with each failure.

Step- 3 :

- Develop innovative methods out of your experience and you will see a day of success when you find people flocking around you to seek advise.
- Well, here are some of the ways to talk and motivate your client :

- ❖ Hi, it's wonderful that I met you today.. How about earning at least Rs. 1500/- per month without doing any work?
- ❖ Hi, your daughter / son had come to me on the way home from school. Nice kid, he / she needs good nutrition. Are you giving them fruits daily?
- ❖ Hi, its time that you took care of your health. Why don't you join me here at 3 pm. Let's talk over it. I will tell you simple inexpensive ways to improve your health.

- ◆ Likewise, raise the curiosity and leave the smoker to think. When he asks how? Or expresses some problem as an excuse, appreciate it and invite him for talk and give an appointment convenient to you and him.
- ◆ If he turns up at the appointed time, Wah, 25% of your job is done. If he doesn't come you have lost nothing and don't lose anything.
- ◆ While talking to him at the appointed time, set the agenda straight without missing words and avoiding beating around the bush. Such an approach impresses upon him / her that you are serious professional.
- ◆ Your talk and body language should impress upon him that you are interested in his welfare.
  - ❖ Seek his permission to explore the issues and methodically analyse his life: His health, financial problems, his commitments, responsibilities, his

status among his friends, relatives and colleagues besides the community around him etc....

- ❖ Gradually corelate his problems to his smoking habit without offending him. Use encouraging words to induce confidence in him.
- ❖ Ask him what he knows about cigarette. Do not interrupt even if he talks about the happiness he enjoys while smoking.
- ❖ Ask about positive and not so positive aspects of tobacco use.
- ❖ Ask about positive aspects of his life, his priorities in life.
- ❖ Clarify the myths systematically if any on smoking habits.
- ❖ Explain how the smoking is eroding his happiness and that of his family like an under-current.
- ❖ Explain the social, financial and health benefits.
- ❖ Ask open-ended questions, help him/her to take a decision.
- ❖ Help him / her to plan a short term goal

Don'ts

- ◆ Don't be judgmental
- ◆ Don't use scare tactics
- ◆ Don't exaggerate

- Don't be rude if you have to disagree
- Don't push too hard but push the points at the right moment with a punch.
- Do not create any embarrassment

Tips to quit smoking

- The best way is to immediately throw away the smoking materials, get rid of lighters, ashtrays, matches and of course cigarettes including the one on hand, voluntarily instantly or set a date to stop and stick to it.
- Keep away from the cigarette shops, the smokers with whom you were smoking and the places where you were smoking.
- Consider using nicotine replacement therapy if the urge and the withdrawal symptoms become unbearable. But never get back to any form of tobacco. Remember the withdrawal symptoms do not last forever.
- Break the links that created the habit or that pulls you back into the habit.
- Try simple breathing exercises, learn to relax with your loved ones.
- Eat healthily food but do not try to diet at the same time.
- Treat yourself or your loved ones to something special with the money you save.

TABLE 1. COMMON ELEMENTS OF EFFECTIVE COUNSELING AND BEHAVIORAL THERAPIES FOR SMOKING CESSATION[8]

COMPONENTS	EXAMPLES
Practical Counseling (Problem Solving/Skills Training) Treatment	
Identify events, internal states, or activities that increase the risk of smoking or relapse	Negative affect. Being around other smokers. Drinking alcohol experiencing urges. Being under time pressure.
Identify and practice coping or problem-solving skills. Typically, these skills are intended to cope with dangerous situations	Learning to anticipate and avoid temptation. Learning cognitive strategies that will reduce negative moods. Accomplishing lifestyle changes that reduce stress, improve quality of life, or produce pleasure Learning cognitive and behavioral activities to cope with smoking urges (eg, distracting attention).
Provide basic information about smoking and successful quitting	The fact that any smoking (even a single puff) increases the likelihood of full relapse. Withdrawal typically peaks within 1-3 weeks after quitting. Withdrawal symptoms include negative mood, urges to smoke, and difficulty concentrating. The addictive nature of smoking.

Intra treatment Supportive Interventions

Encourage the patient in the quit attempt	Note that effective tobacco dependence treatments are now available. Note that half of all people who have ever smoked have now quit. Communicate belief in patient's ability to quit.
Communicate caring and concern	Ask how patient feels about quitting. Directly express concern and willingness to help. Be open to the patient's expression of fears of quitting, difficulties experienced, and ambivalent feelings
Encourage the patient to talk about the quitting process	Ask about : Reasons the patient wants to quit. Concerns or worries about quitting. Success the patient has achieved. Difficulties encountered while quitting.

Extra treatment Supportive Interventions

Train patient in support-solicitation skills	Show videotapes that model support skills. Practice requesting social support from family, friends, and coworkers. Aid patient in establishing a smoke-free home.

Prompt support seeking	Help patient identify supportive others. Call patient to remind him/her to seek support. Inform patients of community resources such as hotlines/help lines.
Clinician arranges outside support	Mail letters to supportive others. Call supportive others Invite others to cessation sessions. Assign patients to be "buddies" for one another.

Source: A Clinical Practice Guideline for Treating Tobacco Use and Dependence; A US Public Health Service Report. JAMA. 2000 ; 283 : 3244 - 3254.

CHAPTER - XI

TOBACCO AND ECONOMICS

Tobacco and Poverty - A Viscious Circle - WHO

"Tobacco smoking product is one consumer product that destroys not only the consumer but also the community around when used as directed"

With the advent of manufactured cigarettes introduced at the beginning of the 20th century in various types and sizes, with inviting additives, in attractive packing, promoted through glamorous uncontrolled irrational advertisements projecting pseudo-status and pseudo-happiness of those who smoke, the global consumption of cigarettes has risen alarmingly.

- While consumption is leveling off, and even decreasing in some countries, substantial number of young people are getting into this habit, the smokers are continuing to smoke more cigarettes worldwide.
- Even if prevalence rates fall, the absolute number of smokers has increased. The female smoking rates, especially in developing countries is also increasing.
- Considering the passive smokers exposed to the danger, it could be said that a smoker will be affecting the health of at least ten others around him with each cigarette

he smokes or may be with each puff. Therefore smoking and its ill effects could be classified as an 'Epidemic health hazard' - a global epidemic.

- It is said that tobacco companies are rolling out cigarettes at the rate of five and a half trillion a year – which nearly suffices to provide 1,000 cigarettes for every man, woman, and child on this planet.
- Cigarettes account for the largest share of manufactured tobacco products. 96 percent of total value sales of smoking tobacco is that of the cigarette..
- Asia, Australia and the Far East countries are reported to be the largest consumers (2,715 billion cigarettes per year), followed by the Americans (745 billion per year), Eastern Europe and Former Soviet Economies (631 billion per year) and Western Europe (606 billion per year).

Cost to the Smoker

Now, let's see how the smoking habit is affecting the economy of the smoker and his family and what it can fetch to the smoker and his family, if he quits.

The cost of smoking to the smoker and to his /her family is the total of the following calculated in terms of money:

- Cost of tobacco products purchased for self.
- Cost of tobacco products purchased for co-smoker.

- Loss of working hours for smoking.
- Man-days lost by the smoker due to frequent sickness.
- Man-days lost by the family member / s to look after.
- Cost of medical treatment, hospitalization if need be due to consequential diseases
- Considering the current cost of patronized brand cigarettes the amount spent by the smoker on cigarettes on an average is not less than Rs. 10,000/- per year @ 10 cigarettes per day and the expenditure shoots in multiples of 10,000 for every additional pack of 10 cigarettes per day.

This expenditure is exclusive of :

- Medical expenses that the smoker or his well wisher has to incur on incurable chronic diseases that follows chronic smoking.
- Loss of job or loss of clients if self employed, due to irregularity and inefficiency
- The time and loss of earning of other family members who have to attend to him at home or at hospital when he is sick.
- As smoking kills a quarter of life of all smokers in their working years, smoking deprives the smoker's family of many years of income.
- A smoker's share in family expenditure on smoking is enormously higher than the expenditure on basic needs

of any member of his family, bringing down the per capita expenditure on basic needs.

- Premature death of the smoker drive his /her spouse, children or elderly parents into miserable poverty.
- Smokers also have to bear many other incidental expenses due to smoke or its fire besides higher premium on health insurance.
- Thus, it is very much clear from the above that a huge sum of money that can fetch the smoker and his family a better quality of life, life style and living condition such as, a good house, a car, a good toys, school and good education for children, good choice dress for all, enjoyable celebration of festivals, good holidays in best places etc... is being burnt out by the smoker.
- Above all, the affectionate smile and hug by the smiling wife and loving children that he can be reciprocated freely and firmly, without hesitation to withhold bad breath will be possible only when one quits smoking. An experience beyond words only to be experienced.

Cost of smoking

Cost per pack of 10s	Amount spent / month @ 10 per day	Amount spent/ year @ 10 per day	Amount spent decade @ 10 per day
*Rs.25/-	Rs.750/-	Rs.9000/-	Rs.90000/-

*(A Popular brand)

- Unfortunately the consumption increases from month to month and year to year.

  "More one smokes more one desires to smoke"

- Smoking doesn't signal end point like alcohol to the smoker.

Costs to the Nation

- People dealing with the tobacco in agricultural and industrial sector and those dealing in financial matters of the Government argue out that total ban on production and sale of tobacco smoking products would result in huge revenue loss, loss of jobs to people working in tobacco industry including agriculture.
- But on the contrary smoking habit causes multilevel loss both in private and public sector activities including the agriculture and service sectors.
- A study if carried out to assess the the real financial burden, a demand created by the smokers on the national economy for health-care and curative service, social welfare services, women and children welfare services and re-habitation service besides loss of manpower and productivity both in public and private sectors including agricultural sectors due to sickness and inefficiency would reveal the myth behind the mind set of the people in favour of the tobacco agriculture and tobacco industry.

- Apart from the smokers the workers in the tobacco products industries also are susceptable to serious health hazards, adding to additional financial burden.
- Needless to say that tobacco free society paves the way for 'Healthy Nation' and revenue out of tobacco is only a myth.

Health-care costs

Specific data on the Health-care costs attributable to tobacco in India is not available, however the available data of some selected countries (2002) is as under:

Countries	Health Care Costs attributable to tobacco in US $
Australia	6 billion
China	3.5 billion
Philippines	600 million
New Zealand	84 million
UK	2.25 billion

- Therefore, the argument that smoking benefits the economy and any control on production of tobacco-based materials reduces revenue, puts thousands of cultivators and tobacco workers out of job etc., is a simple myth.

- Tobacco costs to governments, to employers and to the environment includes spending on social welfare and health care services, loss of foreign exchange in importing cigarettes, loss of land that could grow food; costs of fires and damage to buildings caused by careless smoking, environmental costs ranging from deforestation to collection of smokers' litter, absenteeism, decreased productivity and accidents.
- On the contrary total ban on production and sale results in:
  - Pollution free atmosphere
  - Healthy people
  - Iimproved working and earning capability
  - Increased individual and family savings
  - Diverts the cigarette money towards better health providing or comfort-providing necessities
  - Prevents sudden loss of hard earned money on medical emergency
  - Prevents risk of sudden loss of life
  - Makes the individual and the family fully secure
  - Makes the nation a strong one of healthy people
  - Lessens the liability of the government on health and social welfare sectors.

CHAPTER - XII

INITIATIVE IN OTHER COUNTRIES

Ref: WHO-FIP booklet titled Pharmacists against tobacco published by WHO and FIP

It is a natural curiosity and perhaps good too, to know how our counterparts are recognized and what they are doing in other countries, in this endeavor.

Two memorable landmark events have taken place internationally in the recent past, which perhaps may also vanish into the pages of history, unless the pharmacists all over the world awake, realize the effective potential of the professional power of the 'Pharmacists' in them, realize the responsibility accepted under the oath towards community service and dedicate themselves to rid the world from the menace of tobacco use.

Land mark-1 May 2003

The World Health Organization's Framework Convention on Tobacco Control [WHO FCTC] was adopted in 2003, where the contribution and participation of Non Governmental Organizations, Health professional bodies, youths, environmental and consumer groups, academic and health care institutions in National and International tobacco control efforts.

Land mark-2 May 2003 (Sidney)

The Council of the International Pharmaceutical Federation [FIP] in its annual congress adopted a statement policy on the roll of the pharmacists in promoting a 'Tobacco free future' – a recommendation to pharmaceutical organizations and individual pharmacists on how to help eliminate tobacco use.

World Health Organization initiative

Code of practice on 'Tobacco control' for health professional organizations:

[Adopted and signed by the participants of the WHO Informal Meeting on Health Professionals and Tobacco Control: 28-30 January 2004, Switzerland.]

1. Encourage and support their members to be role model by not using tobacco and by promoting tobacco-free culture.
2. Assess and address the tobacco consumption patterns and tobacco-control attitude of their members through surveys and appropriate policies.
3. Make their respective organization premises and events tobacco-free zone and encourage the members to do the same.
4. Include Tobacco-control in the agenda of all meetings and conventions.

5. Advice members to routinely ask patients on the tobacco use habits and advise on how to quit with follow up action.
6. Influence health institutions and educational centers to include 'Tobacco-control' in their curriculum.
7. Participate in World No Tobacco Day on 31st May and ensure wide publicity.
8. Refrain from accepting any kind of support from the tobacco industry and avoid investing on the tobacco industry.
9. Support the Government in the implementation of 'WHO - Framework Convention on Tobacco Control (FCTC)'
10. Dedicate financial and / or other resources to 'Tobacco-Control' program
11. Prohibit the sale and use of any kind of tobacco products in the premises.

FIP initiative & its policy statement

Program: Role of pharmacist in promoting a 'Tobacco-free- future'

Introduction:

- Tobacco is the cause of serious illness and many premature deaths in both the developed and developing countries.

- Dependence on tobacco is a chronic condition and is difficult to overcome
- Treatment of medical care induced by tobacco use is a major cost factor in health care
- Pharmacist in common with all other health professionals have a responsibility to help people to give up smoking and other use of tobacco.
- Pharmacists fully support the Tobacco-free initiative of the WHO and its establishment of a comprehensive Framework Convention on Tobacco Control (FCTC).
- FIP has created a global network of 'Pharmacists against Tobacco'. The network provides and supports the groups and individuals with information and promotes the role of pharmacists in this endeavor.
- The FIP has made certain recommendations to the pharmaceutical organizations as well as to the individual pharmacists:

Pharmaceutical organizations should:

1. Participate in the tobacco-free initiative of the WHO through FIP and regional pharmaceutical forums.
2. Participate in the national and international coalitions and policy making activities against tobacco
3. Participate in initiatives to produce national guidelines on evidence-based practices on the treatment of tobacco dependence.

4. Diligently follow 'No smoking', 'NO sale of tobacco products' policy in the pharmacies and no license for pharmacies in premises where tobacco products are being sold.
5. Provide basic as well as continuing education to the pharmacists, pharmacy students and pharmacy assistants on tobacco use, associated health risk and quitting process.
6. Raise public awareness of health problems linked to use of tobacco and encourage people to quit.

Pharmacists should:

1. Undergo accredited continuing education program on tobacco use and associated health risk and quitting process to equip himself to lead cessation program
2. Take more active part by providing service to those who wish to quit tobacco use and to those who have tobacco induced disease
3. Lead and participate in multidisciplinary cessation program.
4. Participate in media campaign to high light the danger of tobacco use
5. Be a role model by being 'Not a tobacco user'.
6. Mention tobacco use habits if any in the patient's medication record, as it affects the efficacy of medication

Studies have shown that counseling by health professionals on the dangers of smoking and on the importance of early quitting as one of the most effective as well as cost effective means to reduce tobacco use.

- Pharmacists all over the world fully support the 'Tobacco free Initiative' of the WHO and the establishment of a comprehensive Framework Convention on Tobacco Control [WHO FCTC]
- FIP has been guiding the pharmaceutical organizations and individuals with examples of success stories and best practices in smoking cessation and tobacco control, through its publications and its websites.
- With this initiative the FIP is encouraging pharmacists and pharmaceutical organizations worldwide to initiate and take part in tobacco control activities.
- The FIP in its Policy statement commands 10 steps to get started in the smoking cessation program:

1. Get enough information about 'Tobacco use', 'Quitting Tobacco use' and what pharmacist can do to help?
2. Educate your staff
3. Build local networks and collaboration with like-minded people, NGOs, professionals like nurses, dentists, general practitioners and give and seek their support. This will reduce your workload.
4. Organize service according to the needs of your client

5. Use window display to encourage thinking on the ill effects of smoking and good effect of quitting
6. Provide suitable and correct information
7. Provide personal support
8. Organize follow up visit to your pharmacy
9. Document your activities and results
10. Report your results to your partners and to your professional association.

Australian initiative:

Program: QUIT VICTORIA'S PHARMACY PROGRAM

- 1000 pharmacies are involved.
- Information posters, Display kits and promotional items are provided to these pharmacies to propagate smoke-free themes,
- Key times in a year when invariably people are likely to about their smoking and decide to quit Like 31st May 'WORLD NO TOBACCO DAY' [WNTD] are chosen for the purpose.
- The number of pharmacists participating in WNTD is increasing.
- The number did rise to 273 pharmacists in 2003 from 62 pharmacies in 1998.

Canadian initiative:

Program: 'Clinical Tobacco Intervention' Program [CTI]

- It is a co-operative effort of Ontario Pharmacists Association, Ontario Medical Association and Ontario Dental Association.
- The Pharmacists, Physicians and Dentists are recruited for the purpose
- CTI adopts evidence based approach
- The CTI's primary target group was Pharmacists, Physicians and Dentists and the secondary target group was general Tobacco users
- The study report indicates:
  - 70% of smokers want to quit
  - 46% attempt to quit on their own
  - 7% are able to achieve long time success
  - Success rate increases even with brief clinical intervention followed by pharmaco-therapy and behavioral counseling.
  - About 70% of smokers visit physicians annually
  - In 2003 69.3% of people over 12 years consulted dentist and about 30 enquiries with the pharmacists
- CTI is funded in part by the Government of Ontario since January 2000.

- CTI has trained over 4600 health professionals and has distributed more than 8700 educational kits
- Program evaluation incorporates surveys, pilot projects, focus groups and market research.
- As a collaborative effort the CTI works to build on strengths of distinct professional by focusing on common goals and objectives of supporting patients to become and remain smoke-free.

Japan's initiative

Program: Smoking Cessation Program by the Japan Pharmaceutical Association [JPA]

- JPA has prepared 12 panels for Smoking cessation program to educate the patients and the general public in 2001 and supplied CD-ROM to regional pharmaceutical associations.
- The JPA board of directors at its meeting in April 2003 has passed a Smoking Cessation Campaign declaration to protect people people's health and contribute to the promotion of smoking cessation and prevention of passive smoking, as under:
  1. JPA will actively support people in their effort to quit smoking
  2. JPA will carry out Smoking Cessation campaign aiming at pregnant women and minors in particular

3. Smoking pharmacists will be strongly asked to stop smoking
4. Smoking will be prohibited in pharmacies and drug stores
5. Smoking will be prohibited in every part of the regional and central pharmaceutical association building.
6. This declaration is displayed in all pharmacies

Malaysian initiative

Program: Engaging community pharmacists as 'Certified Smoking Cessation Service Providers [CSCSP]

- Currently there are about 4.6 million smokers in Malaysia with 3.26 Million male smokers above 18 years and another 11.2% smokers who are 18 and below. There are about half a million female smokers with 7.3% above 18 years and 3.1% aged 18 and below. It is expected the figure may rise alarmingly to 5 million smokers by 2025 with 30% males and 10% females.
- An intensive training program to train the pharmacists as 'Certified Smoking Cessation Service Providers' was initiated in 2004 in collaboration with the Government, Malaysian Pharmaceutical Society and Clearinghouse for tobacco control

- This program was delivered in three methods:
  - Education: Self study of the CSCSP manual for a month,
  - Hands-on-workshop with experts for a day
  - Training at a Government 'Quit smoking clinic' for a day.
- Flip charts are provided to help the pharmacists in counseling.

Singapore initiative

Program: Smoking Cessation Program in Guardian

- The program was launched in May 2003 in collaboration with Health Promotion Board
- 16 Pharmacists were trained at Youngberg Wellness Center
- Pharmacists accepts the patients for counseling either directly or through Quit help-line for 'Nicotine replacement therapy'
- The patients are requested to fill up a patient follow up form, the Fagestorm questionnaires and temptation scale.
- Using this information and after assessing the depth of addiction and needs, the pharmacists suitably counsels and provides pharmaco therapy recommendations.

- Pharmacist uses 'Smokerlyser' to measure the extent of dependence and monitor the progress during follow up appointments
- Each sitting may last for 30 minutes depending on the needs and time constraints.
- The follow up counseling is held after 3 days or a week. The frequency of follow up sitting is reduced when the patient shows positive progress in quitting but since the relapse rate is quite high in the first three months it is very much essential to continue counseling until the patient has overcome the urge to smoke.
- Guardian provides free health screening package as an incentive to those who volunteer to seek help to quit smoking.

Sweden initiative

Program: Swedish Pharmacist against tobacco

- The Association of Physicians, Nurses, Dentists, Pharmacists, Teachers. Psychologists work together in a national network under a common secretariat.
- Groups also work regionally and locally in different constellations
- To spread the message and the information the group publishes a quarterly news magazine titled "Tobacco or Health".

- The group that excels in its work is rewarded and each group grants a scholarship to a colleague within themselves in recognistion of a job well done.
- The Pharmacists against tobacco aims to free society from tobacco through:
  - Advise and support to those willing to be tobacco-free
  - Spreading knowledge on tobacco prevention work among colleagues
  - Supporting colleagues wishing to become tobacco-free
  - Supporting local tobacco prevention works through network
  - Inform colleagues about frontline research
  - Offering continued education
  - Assist and support university pharmacy courses in tobacco control and related issues
  - Taking part in seminars and conferences.
- 'Aporteker AB' is the largest employer of pharmacists in Sweden. 'Aporteker AB' has coordinated different tobacco prevention activities. These activities complement the verbal information provided by the pharmacists on OTC Nicotine Replacement Therapy [NRT]. [Excepting the spray NRTs are available without prescription in Sweden]

- ‘Aporteker AB’ supports financially the national Stop Smoking phone line and through the pharmacists.

Indian initiative

The Indian pharmaceutical scenario is very fertile to put it optimistically. The program needs to be initiated involving the terminal pharmacy service providers. Like, the Chemists and the hospital pharmacists.

The use (abuse) of tobacco is becoming a social menace and health hazard – spreading like an epidemic among the youth, teens and adolescents in both the sexes with only variation in percentage.

Hence, there is a need to initiate a ‘National movement or a program’ to eradicate the habit through intensive awareness creation activity, counseling and medical intervention wherever needed.

It will be a laudable task if the Indian pharmacists take on and dedicate themselves in this endeavor.

CHAPTER - XIII

PHARMACIST IN SMOKING CESSATION PROGRAM

The positive, enthusiastic professional support by the pharmacist along with social support from the well-wishers provides a powerful motivation and support to achieve abstinence successfully.

Why the pharmacist?

- Pharmacist has basic knowledge of drugs, diseases and health problems.
- Pharmacist abridges the clinician and the patient , through his service.
- Pharmacist is quite close to the community and enjoys good relation both with the public and with the clinician.
- Hardly one could find a person in any locality, who has not visited a chemist if not for medicine at least for toothpaste and a brush or some cosmetics.
- People trust the pharmacist for his kind service.
- Pharmacist service in health care programs has been well recognized in many developed and developing countries.
- Given the orientation training, the pharmacist can become an effective counselor.

- Pharmacist's role to promote 'Smoking Cessation Program' is much more significant particularly when the patient is on 'Nicotine Replacement Therapy'.
- The disappearance of the erstwhile 'Family doctor' concept is one more reason to justify the role of pharmacist as a family counselor.
- Such being the status and capability of the pharmacist the question should naturally turn around to ask **'WHY NOT THE PHARMACIST'?**

Why the thrust on tobacco ?

- Use [rather abuse] of tobacco is a biggest social menace.
- One of the primary health problems of today is the use (abuse) of tobacco.
- Annual mortality from tobacco use (abuse) exceeds that from all other causes combined.
- Smoking is the greatest single preventable cause of morbidity and mortality in India and perhaps in the world.
- Smokers are expensive liability to the nation's health care system because they not only use health care services at least 50 % more frequently and more intensely than others but also affect the health of non-smoking fellow beings.
- In addition to their own self-invited problems, smokers cost their employers also 30% more by way of loss in

productivity, work-related expenses and medical expenses.

Solution

- Active promotion of smoking cessation should be a significant component of all health care programs including curative service.
- Initiation to prevention of smoking should begin early, preferably during the elementary school years.
- Advice to quit smoking should be given to all patients by the doctor while issuing a prescription and by the pharmacist while dispensing the drugs.
- The pharmacist should become proactive to advise the smokers to quit smoking.
- Some smokers quit smoking on their own. But require professional counseling and social support to overcome tendency to revert to smoking.
- Pharmacist should motivate himself to be the savior of the society and should undergo the required training voluntarily to be the counselor.
- Pharmacist should not miss even a single opportunity to speak on ill effects of smoking.
- The pharmacist should assist those who have opted for 'Nicotine Replacement Therapy' in continuing the course of treatment.

Simple tips

Set an example:

- Exploring avenues to end one's personal addiction to any tobacco product is therefore an important first step in becoming a role model. Pharmacist who smoke, dip, or chew tobacco products either in private or in public cannot be an effective healthcare provider.

Speak to children and youth:

- A "No smoking" policy should exist in and around the pharmacy.
- All the staff should be made aware of the "No smoking" policy.
- Explore and identify the opportunities to speak in the surrounding communities such as civic clubs, elementary / high schools, colleges, religions occasions, special interest organizations and other professional groups.
- Counseling can begin with early elementary school children. Even young children can understand the basic message of health problems or early death and simple economical hazards due to nicotine addiction. They can invariably carry the message home for their elders.
- The pharmacy should display written information inviting smokers for counseling.
- The pharmacist and his / her pharmacy should participate in all the National and local anti-smoking campaigns.

- The pharmacist should keep all information readily available to make the counseling effective.
- All anti-smoking products should be sold with an invitation to come back and report progress.
- The pharmacy should have a list of health promotion centers in the local area.
- The pharmacist should not miss opportunities to advice wherever smoking is identified as a possible cause of symptoms.
- Counseling sessions to stop smoking should be available from the pharmacist by appointment.

Exhibit eye catching display boards at the counter. Some suggested message for display are given here under [But ensure that you display one message at a time and change them periodically]

- cost of a day's cigarette can provide good fruits to your wife, children and aged parents.
- cost of a weeks cigarette can provide a good dress to your child.
- cost of a months cigarette can provide the fees for your child in a good school.
- A year's cigarette cost can provide good holiday to your family.

The pharmacist shoud first appraise himself with all the information about tobbacco, its products and its contents besides the illeffects on health.

Next he shoud monitor the following information as profile to understand the smoker seeking help to quit:

1. Are you currently a smoker? If so, for how long and how many packs do you smoke per day?
2. Have you tried to stop smoking before?
3. If so, which method did you try?
4. Are you ready to stop now?
5. Are you pregnant or breast-feeding?
6. Have you got yourself checked for any cardiac problems? if yes, ask and go through the report / prescription and note down the name and address of the doctor.
7. Do you have high blood pressure not controlled with medication?
8. Are you a diabetic?
9. Do you suffer from pain/burning sensation in chest or in stomach ?
10. Do you suffer from Asthma if so medicine being taken?
11. What are the prescription or nonprescription medications you are taking?

The Fagerstrom Tolerance Test

The Fagerstrom Tolerance Test is a standardized set question to help they smoker to evaluate himself/ herself. This questionaire either should be given to the client to fillup voluntarily or the client should be assisted to fillup. The evaluation should be done to understand the smoking status of the client to adopt strategic counselling and should be made availabale to the clinician in case NRT is to be adopted.

	Questions	Answers	Points
1.	How soon after you wake do you smoke your first cigarette ?	Within 5 minutes	3
		6 to 30 minutes	2
2.	Do you find it difficult to refrain from smoking in places where it is forbidden (e.g., in church, at the library, at the movies)?	Yes	1
		No	0
3.	Which cigarette would you most hate to give up?	The first one in the morning	1
		All others	0
4.	How many cigarettes per day do you smoke?	10 or less	0
		11 to 20	1
		21 to 30	2
		31 or more	3
5.	Do you smoke more frequently during the first hours after waking than during the rest of the day?	Yes	1
		No	0

Scoring:

0 to 2 - very low dependence

3 to 4 - low dependence

5 - medium dependence

6 to 7 - high dependence

8 to 10 - very high dependence

The Fagerstrom Tolerance Test for Nicotine Dependency allows to classify smokers according to level of nicotine dependency and to identify those most likely to need nicotine replacement therapy (usually indicated by a score of 6 or above). The two most important questions are numbers 1 and 4 .

(Adapted from Fagerstrom KO, Heatherton TF, Kozlowski LT/ Nicotine addition and its assessment. Ear Nose Throat J. 1991; 69:763-765.)

CHAPTER - XIV

INITIATING SMOKING CESSATION PROGRAMME

Smoking habit cannot be wished away. There is no blanket magic formula to achieve smoking cessation. However, environment, habit and approach of friends and relatives do provide good influence on the smoker to realize and quits smoking. It is a process of sustained efforts by all concerned.

- Pharmacist should update his / her knowledge and be well informed and make use of them regularly while talking to people.
- Pharmacist should give special attention to people seeking counseling.
- Pharmacist should maintain good relation with his / her clients, ensure that they come back to report the progress.
- Pharmacist should identify the ex-smokers and set them with the task of counseling the new clients.
- Pharmacist should keep a watch on the advertisements on cigarettes and inform the authorities in case it trespasses the permitted limit or whenever he feels that the advertisement is misleading the children and youth.

There has therefore never been a better time for pharmacists to commit to take up 'Smoking Cessation Program' and counsel smokers and other forms of tobacco users on effective cessation program.

Tips to the smoker who quits or desires to quit

- Pharmacist is your well-wisher. Do not hesitate to avail his service and follow his advise.
- If you are on nicotine replacement therapy ask the pharmacist on its proper use.
- Strictly adhere to the recommended dosage regimen.
- Do not reduce the dose of the medication or stop medication prematurely.
- Do not use any form of tobacco product under whatever pretext regardless of how intense is the urge or influence from others.
- Perform simple exercises that improve your breathing and expand your chest or go on a long walk every day in open air.
- Avoid :
  - Places where cigarettes are sold
  - Places where you were regularly smoking
  - People with whom you were smoking

- If necessary substitute any alternative harmless habits to overcome the urge to smoke.
- Try to enjoy life more in the company of your family and children or non-smoking friends / relatives, if necessary avail leave from works to stay with the family and take them with you wherever you go. This brings your family and friends more closer to you, makes you more respectable and lovable in your family.
- A large number of self-help quitting guides are available to improve a smoker's chance of success. Your pharmacist could be the best guide. Nevertheless, guides published by the manufacturers of Nicotine Replacement Therapy products can be obtained from your pharmacist.
- Join hands with the pharmacist to educate and create awareness in others to keep away from smoking. Society will recognise your service.
- In addition, the organizations listed in may be contacted concerning availability of consumer-friendly material to distribute to all persons interested in quitting smoking (See Appendix - I).

Role of smoker

- Well, the success of any nicotine replacement therapy product depends on the smoker himself. Smoker is the central character and the success of quitting depends on how strong is his motivation to quit.

- He must sincerely desire and decide to stop smoking and should prepare himself for the change in his own habits and behaviors to accommodate a nicotine-free existence.
- Family, friends, and associates should be informed and requested to offer continuous support and encouragement besides to bear kindly with certain temporary irritability.

CHAPTER- XV

BENEFITS OF QUITTING

- Blood pressure and pulse rate drop to normal within 20 minutes.
- Body temperature of extremities (hands/feet) increases to normal within 8 hours of quitting.
- Carbon monoxide level in blood drops to normal and Oxygen level in blood increases to normal within 24 hours of quitting.
- Risk of sudden heart attack decreases within 48 hours of quitting.
- Nerve endings begin to regenerate and sense of smell and taste begin to return to normal within 2 weeks to 3 months of quitting.
- Blood circulation improves.
- Walking even on a uphill gradient becomes easier.
- Lung function increases by 30% within 1 to 9 months of quitting.
- Overall energy typically increases.
- Symptoms associated with chronic use (such as coughing, nasal congestion, fatigue, and shortness of breath) decrease.
- Ciliary (fine hair like projections lining trachea and tracheoles) function to return to normal, which increases the body's ability to handle mucus, clean the respiratory tract, and reduce respiratory infections within 1 year of quitting.

- Lung Cancer death rate (for average one pack / day former smoker) decreases by nearly 50%.
- Pre-cancerous cells are replaced with normal cell growth.
- Risk of stroke is typically lowered, possibly to that of a non-smoker.
- Risk of cancer of the mouth, throat, esophagus, bladder, kidney, and pancreas decreases within 15 years of quitting.
- Lots of money would be available for spending on better quality of life.
- More time spent with family results in happy, harmonious and cohesive family life.
- Reduces financial tension in the family and there will be substantial reduction in money related disputes in family.
- Contacts and relations with respectable people in the community improve and increases.
- Efficiency and consequent reputation increases in the work place.
- Tendency to run after illegal source of income decreases.
- Co-related habits like frequent visits to restaurant to have coffee/tea decreases and so also the visits to bars decreases.
- Gradually many of the unaccomplished dreams of leading better style and quality of life materialises.

So, dear smokers, what are you waiting for ?

Quit, Quit, Quit and Quit smoking for ever.

Preparing pharmacy for smoking cessation program

1. A no smoking policy should exist through out the pharmacy.
2. The pharmacy should participate in national and local anti smoking campaigns.
3. Update knowledge-base on:
   A. The optimum ways to stop smoking.
   B. The anti-smoking therapies.
4. Always treat your client courteously and address the person by his / her name respectfully.
5. Instruct and train the counter staff to dispense anti-smoke drugs with an invitation to come back and report progress.
6. Keep ready all supporting information and helplines.
7. The pharmacy should have a list of health promotion centres that help smokers to stop smoking.
8. The pharmacist and medicines counter staff should offer opportunistic advice when smoking is identified as a possible cause of symptoms of the health problem for which the patient is seekinbg medicine.
9. Give ready appointment to the smoker whenever he / she seeks such help for counseling sessions to stop smoking.

Preparing pharmacy for 'quit smoking' program

1. A 'No smoking' policy should exist throughout the pharmacy.
2. The pharmacy should participate in national and local anti smoking campaigns.
3. Update knowledge-base on:

a. The optimum ways to stop smoking.

b. The anti-smoking therapies.

4. Always treat your client courteously and address the person by his / her name respectfully.
5. Instruct and train the counter staff to dispense anti-smoke drugs with an invitation to come back and report progress.
6. Keep ready all supporting information and helplines.
7. The pharmacy should have a list of health promotion centers that help smokers to stop smoking.
8. The pharmacist and medicines counter staff should offer opportunistic advice when smoking is identified as a possible cause of symptoms of the health problem for which the patient is seekinbg medicine.
9. Give ready appointment to the smoker whenever he / she seeks such help for counseling sessions to stop smoking.

Sustaining the program through a memory jogger

Many a time our memory however sharp and reliable it is , is prone to certain missives that embarrasses us and the clients besides causing great hardship and inconvenience to both. Such events results in loss of rapport and confidence reposed on us by the client. Hence it is healthier to maintain a scheduler to help us to function like a professional. A sample fprmat for the scheduler could be as under:

Name of the client & address	Date of first contact	Appointment date & time			
Mr / Ms					
	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Age	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Tel. No	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Res:	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Mob:	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Occupation	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Relevant history in brief					

1. Memory jogger helps you to recollect the person and his profile, which gives an effective link for continued counseling.
2. Organize a simple office with arrangement to sit comfortably and talk.
3. Initiate the talks casually and see that your talks and body language keeps him attentive and ensure that the session is conversational and of reasonably of short duration.
4. Never use the opportunity to 'show off' your knowledge and capacity. counseling talks should be short, effective and apt.

Let's look forward for the world and future 'free from tobacco'

SUMMARY

1. Tobacco that was once a weed grown for its leaves is smoked, chewed, or sniffed for a variety of effects. Tobacco contains nicotine and several cancer causing substances. Cigarette smoke contains additional toxic substances.

2. Bidis, cigars, cigarillos, double coronas, cheroots, stumpen, chuttas and dhumtis kreteks pipes sticks, water pipe, also known as shisha or hubbly-bubbly are equally harmful as cigarette.

3. Chewing tobacco, varieties of pan like kaddipudi, hogesoppu, gundi, kadapam, zarda, pattiwala, kiwam, mishri, and pills, moist snuff is taken orally. Khaini, shammaah and nass or naswa and dry snuff are other forms of tobacco. They are again equally harmful.

4. Smoking definitely causes digestive disorders / ischaemic heart diseases / lung cancer/ paralysis / any other cancers / all.

5. Children lose their enjoyable healthy childhood, the youth lose their vigor, vitality and glamour, the middle aged lose their health and wealth, the aged become liability and the pregnant lady begets a deformed or a sick baby, all due to direct smoking or inhaled passive

6. Polacrilex gum, transdermal patch, nasal spray, oral inhaler, nicotine oral inhaler, bupropion, clonidine,

nortri- ptyline are some of the therapies available to help smoker to quit smoking.

7. Cigarette manufacturers and traders cherish and flourish at the cost of the health and wealth of the smokers.
8. The cigarette smoke not only destroys the smoker but also the environment and the people around.
9. "Quit, quit and 'quitting' " is the only mantra to earn friends, earn confidence of family, enjoy the company of the family and enjoy the life
10. Being the most easily accessible professional in the community, pharmacist can become a role model and a guide to youngsters to keep away from smoking and a motivator to the smokers to quit smoking

APPENDIX - I

Organizations involved in Tobacco smoking cessation Programma

Karnataka State

Consortium For Tobacco Free Karnataka
Contact name: S.J. Chander
Telephone: +91-080-25531518 / 25525372 /
Res: 26393508
Email: chc@sochara.org; chandersj@yahoo.com
URL: http://www.sochara.org

Community Health Cell - SOCHARA
No. 367, 'Srinivasa Nilaya', 1st Block, Jakkasandra,
Koramangala, Bangalore - 560 034, India
Telephone: +91-080-25531518 / 25525372
Email: chc@sochara.org

National Institute of Mental Health & Neuro Sciences
(NIMHANS)
Tobacco Cessation Clinic
Bangalore, Karnataka.

National

Indian Council of Medical Research
Ansari Nagar, Post Box 4911
New Delhi 110029 INDIA
Tel: 91-11-6966181
Fax: 91-11-868662 E-mail: icmrned@ren.nic.in

Assam Cancer Soceity & Rural Based
Preventive Oncology Research Centre
National Highway 37 Bokakhat Assam 337 INDIA

Tata Memorial Centre Department of Radiation Oncology
E. Borges Marg Parel, Mumbai 400 012 INDIA
Tel: 91-22-4139318 Fax: 91-22-4168440
E-mail: dinshaw.tms.vsnl.com, tmhdir@tmc.ernet.in

Tata Institute of Fundamental Research
Homi Bhabha Road Colaba, Mumbai - 400 005 INDIA
Tel: 91-22-2152317 Fax: 91-22-2152110
E-mail: pcgupta@tifr.res.in

Health Association of India
Tong Swasthya Bhawan 40 Institutional Area,
South of IIT New Delhi - 110 016 INDIA
Fax: 91-11-68537088 E-mail: aparajita@satyam.net.in

Non-Smokers Association (NOSA)
P.O.Box 6602 Calcutta 700 069 INDIA

National organization for Tobacco Eradication
Vaidya Hospital, Gov. Pestana Road Panaji,
Goa - 403001 INDIA Tel: 91-832-223526 Fax: 91-832 223898 E-mail: sgvaidya@bom2.vsnl.net.in

Quit and Win 2000 Representative
Apollo Hospitals Department of Respiratory Diseases
Jubilee Hills Hyderabad - 500 034, INDIA
Tel: 91-40-237381
E-mail: ajit.vigg@hdl.vsnl.niet.in

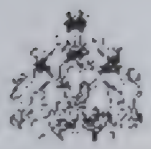
International

World Health Organization
Tobacco Free Initiative (TFI)
World Health Organization
Avenue Appia 20 1211
Geneva 22

APPENDIX – II

Karnataka Act

CPMG / KA / BG-GPO / 13 / 2003-05



ಕರ್ನಾಟಕ ರಾಜ್ಯಪತ್ರ

ಅಧಿಕೃತವಾಗಿ ಪ್ರಕಟಿಸಲಾದುದು

ವಿಶೇಷ ಪತ್ರಿಕೆ

ಭಾಗ - IV-A	ಬೆಂಗಳೂರು, ಶುಕ್ರವಾರ, ಏಪ್ರಿಲ್ ೪, ೨೦೦೩ (ಚೈತ್ರ ೧೪, ಶಕ ವರ್ಷ ೧೯೨೫)	ನಂ. ೩೬೧

Parliamentary Affairs and Legislation Secretariat

Notification

No. SAMVYASHAE 34 SHASANA 2001, Bangalore, dated 4th April, 2003

Ordered that the translation of the ಕರ್ನಾಟಕ ಧೂಮಪಾನ ನಿಷೇಧ ಮತ್ತು ಧೂಮಪಾನ ಮಾಡದವರ ಆರೋಗ್ಯ ರಕ್ಷಣೆ ಅಧಿನಿಯಮ, 2001 (2003 ರ ಕರ್ನಾಟಕ ಅಧಿನಿಯಮ ಸಂಖ್ಯೆ 2) in the English language, be published as authorised by the Governor of Karnataka under clause (3) of Article 348 of the constitution of India in the Karnataka Gazette for general information.

The following translation of the the ಕರ್ನಾಟಕ ಧೂಮಪಾನ ನಿಷೇಧ ಮತ್ತು ಧೂಮಪಾನ ಮಾಡದವರ ಆರೋಗ್ಯ ರಕ್ಷಣೆ ಅಧಿನಿಯಮ, 2001 (2003 ರ ಕರ್ನಾಟಕ ಅಧಿನಿಯಮ ಸಂಖ್ಯೆ 2) in the English language is published in the Official Gazette under the authority of the Governor of Karnataka under clause (3) of Article 348 of the Constitution of India.

Karnataka Act 2 of 2003

(First published in the Karnataka Gazette Extra-ordinary on the 10th day of March 2003)

THE KARNATAKA PROHIBITION OF SMOKING AND PROTECTION OF HEALTH OF NON-SMOKERS ACT, 2001

(Received the assent of the president of India on the Twenty eighth day of February 2003)

An Act to provide for prohibition of smoking in places of public work or use and in public service vehicles and for the protection of health of non-smokers in the State of Karnataka and to make provision for matters connected therewith or incidental thereto.

Be it enacted by the Karnataka State Legislature in the fifty second year of the Republic of India as follows:-

1. Short title and commencement - (1) This Act may be called the Karnataka Prohibition of Smoking and Protection of Health of Non-Smokers Act, 2001.

(2) It shall come into force from such date, as the State Government may, by notification, appoint and different dates may be appointed for different provisions of this Act.

2. Definitions.- In this Act, unless the context otherwise requires,-

(a) "advertisement" means and includes any notice, circular, wall paper, pamphlet, display on hoardings, or any visible representation made by means of any light, sound, smoke, gas or any other means which has the effect of promoting smoking and the expression 'advertise' shall be construed accordingly;

(b) "Authorised Officer" means an officer appointed under section 6;

(c) "Place of public work or use" means a place which is visited by general public and includes Auditorium, Hospital Buildings, Health Institutions, Amusement centres, Restaurants, Public Offices, Court Buildings, Educational Institutions, Libraries, Places of worship and such other places notified by the State Government to be a Place of Public Work or use but does not include any open place;

(d) "Public Service Vehicle" means a vehicle as defined under clause (35) of section 2 of the Motor Vehicles Act, 1988 (Central Act 59 of 1988);

(e) "smoking" means smoking of tobacco in any form, whether in the form of cigarette, cigar, beedis or otherwise with the aid of a pipe, wrapper or any other instrument.

3. Prohibition of smoking, advertisement, sale and storage of smoking substances.- No person shall,- (1) engage in smoking in any place of public work or use, where smoking is prohibited and such prohibition is displayed or conveyed through any audio or visual medium, or in any Public Service Vehicle.

(2) notwithstanding anything contrary contained in any other law advertise in any place of Public Work or use or in any Public Service Vehicle to promote smoking or the sale of cigarettes and beedies:

Provided that this clause shall not apply in relation to,-

(a) an advertisement of cigarettes or beedies in or on a package containing cigarettes or beedies;

(b) advertisement of cigarettes or beedies which is displayed at the entrance or inside a warehouse or a shop where cigarettes or beedies are offered for distribution or sale.

(3) sell cigarettes, beedis or any other smoking substance to any person who is below the age of eighteen years;

(4) himself or by any person on his behalf, store, sell or distribute cigarettes or beedis or any other smoking substance within the premises of any Hospital, Health Institution, Public Office, Court, Library, College, School or other Educational Institution and Place of worship.

4. Notice to be displayed.- For the purpose of clause (1) of section 3, the owner or manager or person incharge of a place of public work or use shall display or convey through audio or visual medium in Kannada and English languages at a conspicuous place or places in the premises of place of public work or use prominently stating that the entire place or such part of it is a "No smoking Zone" and that "Smoking is prohibited in such place or, as the case may be, part of it."

5. Penalties.- Any person, who contravenes the provisions of: - (1) clause (1) of section 3 or of section 4 shall be punishable with fine which may extend to one hundred rupees and in case of second or subsequent offence, shall be punishable with a minimum fine of two hundred rupees, but which may extend to five hundred rupees;

(2) clauses (2),(3),(4) of section 3 shall be punishable with fine which may extend to five hundred rupees and in case of second or subsequent offence, shall be punishable with imprisonment for a term which may extend to three months, and with a minimum fine of five hundred rupees, but which may extend to one thousand rupees.

6. Authorised Officer.- (1) The State Government may by notification appoint one or more persons in respect of any area or areas to be authorised officers for the purpose of this Act.

(2) Every authorised officer appointed under sub-section (1) shall be deemed to be a public servant within the meaning of section 21 of the Indian Penal Code, 1860 (Central Act 45 of 1860).

7. Removal of a person from the Place of an offence.- Any person who contravenes the provisions of section 3 and who is being asked by an authorised officer or a Police Officer not below the rank of a Sub-Inspector of Police to desist from smoking persists, shall be liable to be removed from the place of the offence. A person removed from the show house, auditoria, amusement centre or a Public Service Vehicle shall not be entitled to refund of any payment made by him for journey or for admission to the demonstration, exhibition, assembly or meeting or to any other compensation.

8. Court Competent to try offences under this Act and take cognizance of offences.- [1] No court other than the court of a Metropolitan Magistrate or Judicial Magistrate First-Class shall take cognizance of and try an offence under this Act.

(2) No court shall take cognizance of any offence under this Act except on a complaint in writing of an authorized officer with respect to offences under clause (1) of section 3 or section 4 and on a report in writing of a Police Officer, not below the rank of Sub-Inspector of Police, with respect to offences under clauses (2), (3) and (4) of section 3.

9. Certain offences to be cognizable and Bailable.- Notwithstanding anything contained in the Code of Criminal Procedure, 1973 (Central Act 2 of 1974) offences under clauses (2), (3) and (4) of section 3 shall be cognizable and bailable.

10. Offences under the Act to be tried summarily.- All offences under this Act shall be tried summarily in the manner provided for summary trial of cases under the Code of Criminal Procedure, 1973 (Central Act 2 of 1974).

11. Offences by Companies.- (1) Where an offence under this Act has been committed by a company, every person, who, at the time the offence was committed, was in charge of, and was responsible to, the company for the conduct of the business of the company, as well as the company, shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly:

Provided that nothing contained in this sub-section shall render any such person liable to any punishment, if he proves that the offence was committed without his knowledge or that he had exercised all due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section(1), where any offence under this Act has been committed by a company and it is proved that the offence has been committed with the consent or connivance of, or is attributable to any neglect on the part of, any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall be proceeded against and punished accordingly.

Explanation.- For the purposes of this section,-

(a) "Company" means a body corporate and includes a firm or other association of individuals; and

(b) "Director", in relation to a firm, means a partner in the firm.

12. Delegation of Powers.- The State Government may, by notification in the Official Gazette, direct that any power exercisable by it under this Act, may also be exercised by such officer as may be mentioned therein and subject to such conditions, if any, as may be specified therein.

13. Compounding of offences.- (1) The State Government or any person authorised by the State Government in this behalf by general or special order, may either before or after the institution of the proceedings compound any of the offences made punishable under this Act.

(2) When an offence is compounded under sub-section (1), the offender if in custody shall be discharged and no further proceeding shall be taken against him in respect of the offence compounded.

14. Repeal and savings.- (1) The Karnataka Prohibition of Smoking in Show houses and Public halls Act, 1963 (Karnataka Act 30 of 1963) is hereby repealed and in clause (y) of sub-section (1) of section 92 of the Karnataka Police Act, 1964 (Karnataka Act 4 of 1964) the words "smokes or" shall be omitted:

Provided that the provisions of section 6 of the Karnataka General Clauses Act, 1899 shall be applicable in respect of the repeal of the said enactment and the provisions of the said law and sections 8 and 24 of the said Act shall be applicable as if the said enactment and provisions had been repealed and re-enacted by this Act.

15. Power to make rules.- (1) The State Government may by notification and after previous publication make rules generally for the purpose of carrying into effect the provisions of this Act.

(2) Every rule made under this Act shall be laid as soon as may be after it is made, before each House of the State Legislature while it is in session for a total period of thirty days which may be comprised in one session or in two or more successive sessions, and if, before the expiry of the session immediately following the session or successive sessions aforesaid both Houses agree in making any modification in the rule or both Houses agree that the rule should not be made, the rule shall from the date on which the modification or annulment is notified by the Government in the Official Gazette have effect only in such modified form or be of no effect, as the case may be, so however, that any modification or annulment shall be without prejudice to the validity of anything previously done under such rule.

The above translation of the ಧೂಮಪಾನ ನಿಷೇಧ ಮತ್ತು ಧೂಮಪಾನ ಮಾಡದವರ ಆರೋಗ್ಯ ರಕ್ಷಣೆ ಅಧಿನಿಯಮ, 2001 (2003 ರ ಕರ್ನಾಟಕ ಅಧಿನಿಯಮ ಸಂಖ್ಯೆ 2) be published in the official Gazette under clause (3) of Article 348 of the constitution of India.

T.N.Chaturvedi
Governor of Karnataka

By order and in the name of the Governor of Karnataka

M.R.Hegde
Secretary to Government
Department of Parliamentary Affairs and Legislation

ನಿರ್ದೇಶಕರು, ಮುದ್ರಣ, ಲೇವಿನ ಸಾಮಗ್ರಿ ಮತ್ತು ಪ್ರಕಟಣೆಗಳ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.

APPENDIX – III

Useful Websites

suggested websites for more information.

- www.givingupsmoking.co.uk
- http://apps.nccd.cdc.gov/nations
- www.nonsmokingday.org
- www.sickofsmoking.com
- www.quit.orgg.uk
- www.ashorg.uk
- www.bbc.co.uk./health/kth
- www.had-online.org.uk
- www.tobacco-control.org
- www.quitnet.com
- http://www.who.int/tobacco/en/
- http://www.euro.who.int/europharm
- http://www.globalink.org
- http://tc.bmjjournals.com
- http://petition.globalink.org
- http://www.srnt.org
- http://treatobacco.net/home/home.cfm
- http://www.quitnet.com
- http://www tobacco.org

- http://galen.library.ucsf.edu/tobacco
- http://smokingsides.com
- http://www.surgeongeneral.gov/tobacco
- http://www.tobacco.neu.edu
- http://trytostop.org
- http://www.no-tobacco.org
- http://www.pharmacists.ca/content/hcp/resource_centre/practice_resources/helping.cfm
- http://www.pharmj.com/topics/nosmokingday.html
- http://www.camh.net/otru
- http://www.tobaccoreporter.com
- http://www.tobacco.com
- http://www.quit.org.au
- http://www.ctica.org
- E-mail : jpa@nichiykau.or.jp

APPENDIX – IV

"World No Tobacco Day" - WHO Themes

2005	Health Professionals Against Tobacco
2004	Tobacco & Poverty: A vicious circle
2003	Tobacco free film, tobacco free fashion
2002	Tobacco free sports
2001	Second-hand smoke kills
2000	Tobacco kills, don't be duped
1999	Leave the pack behind
1998	Growing up without tobacco
1997	United for a tobacco free world
1996	Sport and art without tobacco: play it tobacco free
1995	Tobacco costs more than you think
1994	Media and tobacco: get the message across
1993	Health services: our windos to a tobacco free world
1992	Tobacco free workplaces: safer and healthier
1991	Public places and transport : better be tobacco free
1990	Childhood and youth without tobacco : growing up without tobacco

REFERENCE & ACKNOWLEDGEMENT

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2. World Health Organization (1998). Guidelines for controlling and monitoring the tobacco epidemic. Geneva, Switzerland.
3. ERC Statistics International is available on the Internet at http://www.erc-world.com.
4. GLOBALink is on the Internet at www.globalink.org. Centers for Disease Control and Prevention (1993). Cigarette

   Smoking-Attributable Mortality and Years of Potential Life Lost—United States 1990. MMWR, 42(33), 645-649.
5. World Health Organization (1998). World Health Statistics Annual, 1996. Geneva, Switzerland.
6. World Health Organization, World Health Report 1999 (Geneva: WHO, 1999); http://www.who.int/whr/1999/en/report.htm
7. U.S. Centers for Disease Control and Prevention, "Changes in the Cigarette Brand Preference of Adolescent Smokers, U.S. 1989-1993," Morbidity and Mortality, Weekly Report, August 1994.

8. The relation of the clinical picture to the histopathology of snuff dipper's lesions in a Swedish population.Journal of Oral Pathology 5: 229-236, 1976 (Axéll, T., Mörnstad, H., Sundström, B).

9. Smokeless tobacco use and health effects among baseball players. Journal of the American Medical Association 264: 218-224,1990 (Ernster, V.L., Grady, D.G., Greene, J.C., Walsh, M.,Robertson, P.B., Daniels, T., Benowitz, N., Siegel,D., Gerbert, B., Hauck, W).

10. A surprise with smokeless tobacco oral lesions, Journal of the American Dental Association 122: 62-64, 1991 (Grady, D.G., Ernster, V.L., Stillman, L., Greene, J.C.,Daniels, T.E., Silverman, S).

11. Oral mucosal lesions found in smokeless tobacco users, Journal of the American Dental Association 121: 117-123,1990 (Grady, D.G., Greene, J.C., Daniels, T.E., Ernster, V.L.,Robertson, P.B., Hauck, W., Greenspan, D., Greenspan, J.S., Silverman, S).

12. http://cancercontrol.cancer.gov/tcrb/monographs/2/.

13. http://www.cdc.gov/tobacco/who/india.htm.

14. http://www.hriday-shan.org/html/tobaccofactsheet.htm.

15. www.givingupsmoking co.uk

16. http://apps.nccd.cdc.gov/nations

17. www.nosmokingday.org.uk
18. www.sickofsmoking.com
19. www.quit.org.uk
20. www.ash.org.uk
21. www.bbc.co.uk/health/addictions
22. www.hda-online.org.uk
23. tobacco.who.int
24. www.tobacco-control.org
25. www.quitnet.com
26. http://www.who.int/tobacco/en/
27. http://www.euro.who.int/europharm
28. http://www.globalink.org
29. http://tc.bmjjournals.com
30. http://petition.globalink.org
31. http://www.srnt.org
32. http://treatobacco.net/home/home.cfm
33. http://www.quitnet.com
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35. http://galen.library.ucsf.edu/tobacco
36. http://smokingsides.com

37. http://www.surgeongeneral.gov/tobacco

38. http://www.tobacco.neu.edu

39. http://trytostop.org

40. http://trytostop.org

41. http://www.no-tobacco.org

42. http://www.pharmacists.ca/content/hcp resource_centre/practice_resources/helping.cfm

43. http://www.pharmj.com/topics/nosmokingday.html

44. http://www.camh.net/otru

45. http://www.tobaccoreporter.com

46. http://www.who.int/tobacco/wntd/en/

47. National Institute of Mental Health & Neuro Sciences (NIMHANS) Bangalore, Karnataka.

49. Publications of Indian Pharmaceutical Association, Kalina, Mumbai, India

50. Health Professionals Against Tobacco, a publication of International Pharmaceutical Federation, Sweden & WHO.

Reviewer's Opinion

Its an excellant initiative by KSPC. The book is a treasure of information for every one. The format & style is simply good. I thank Mr. Gundu Rao, Mr. P.S. Bhagavan & their team. I recemmend a National programme in this direction.

Prafull D. Sheth
Immediate Past President, I.P.A.
Former Executive Vice President &
Member of the Board, Ranbaxy Laboratories Ltd.

Its a very exhaustive compilation. Such a book was badly needed to creative awareness among all people. The presentation of facts and the format is unique and is impactful.

Dr. Ramesh Bilimoga
M.D., D.R.M. D.M.R.D., F.I.A.M.S., F.I.C.S,
Past President, I.M.A. Karnataka Branch

Since the 'Family doctor' concept has fast eroded, pharmacist can fit into the place to advise the people on good life habits. The books is worth preserving and is useful as long as smokers exist in this world.

K. Satyanarayana
Former Editor, Kannada Prabha
& Freelance Journalist

The subject has been very aptly presented from all aspects. I recommend this book to all medical professionals and lay people too. I hope the book initiates a strong movement against Tobacco use and smoking in particular.

R. Parameshwar
Manager
Training & Sales, British Biological, Bangalore

NOTES

Karnataka State Pharmacy Council

President	:	Sri Gundu Rao D.A
Vice-President	:	Sri Prabhakumar B.G
Executive Committee Members	:	Sri Gangadhar V Yavagal
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		The Director Health & Family Welfare Services Govt. of Karnataka
		The Government Analyst

Dy. Director, DIC, KSPC : Ms. P. K. Lakshmi

Publications :

1) Hand Book of PharmaSOS - I Edn
2) Role of Pharmacists for Quality Health Care
3) Breathing Easier with Asthma
4) Karnataka State Essential Drugs List
5) Standard Treatment Guidelines, Karnataka
6) Drugs Usage in Special Population - Pregnancy & Lactation
7) Drugs Usage in Special Population - Paediatrics & Geriatrics
8) Hand Book of PharmaSOS - II Edn
9) Pharmacist for Tobacco Free Future

Karnataka State Pharmacy Council

ABC'S
OF SAFE DRUG USE

We are here to help you to use drugs safely, appropriately, effectively and economically

Pharmacists & Patients - A growing Partnership

For drug information please contact :

Drug Information Centre

514/E, 1st Main, 2nd Stage, Vijayanagar Club Road,
Bangalore-560 040. Ph : 080-23383142, 23404000, Fax : 080-2320234
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